PAPER TRADE JOURNAL

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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

MARCH 31 1938

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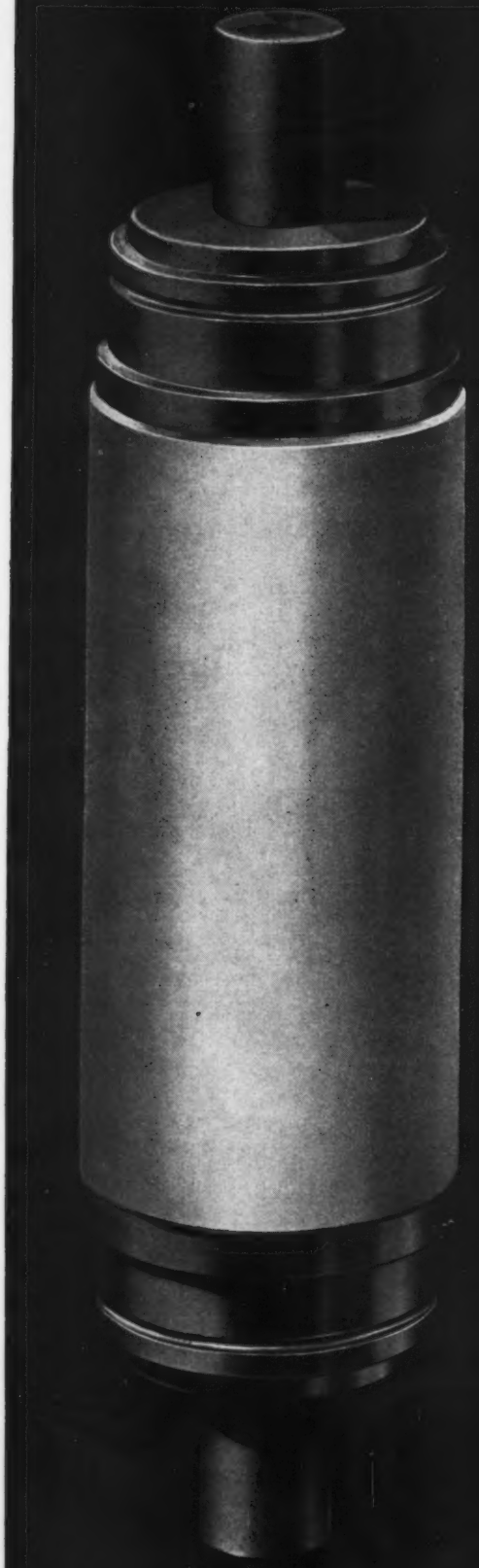

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PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

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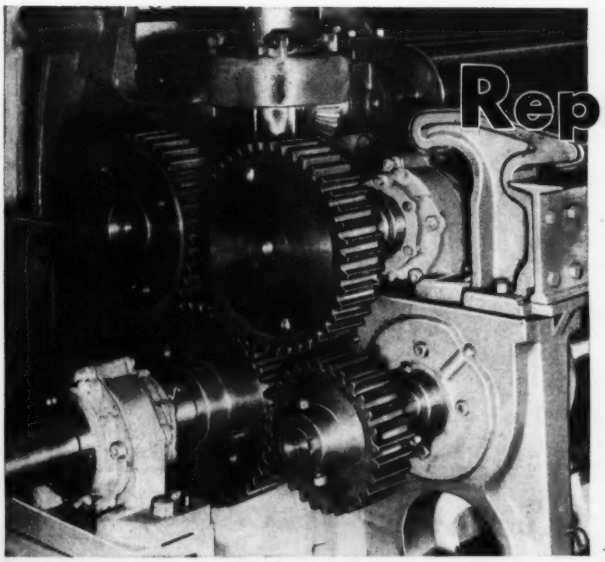

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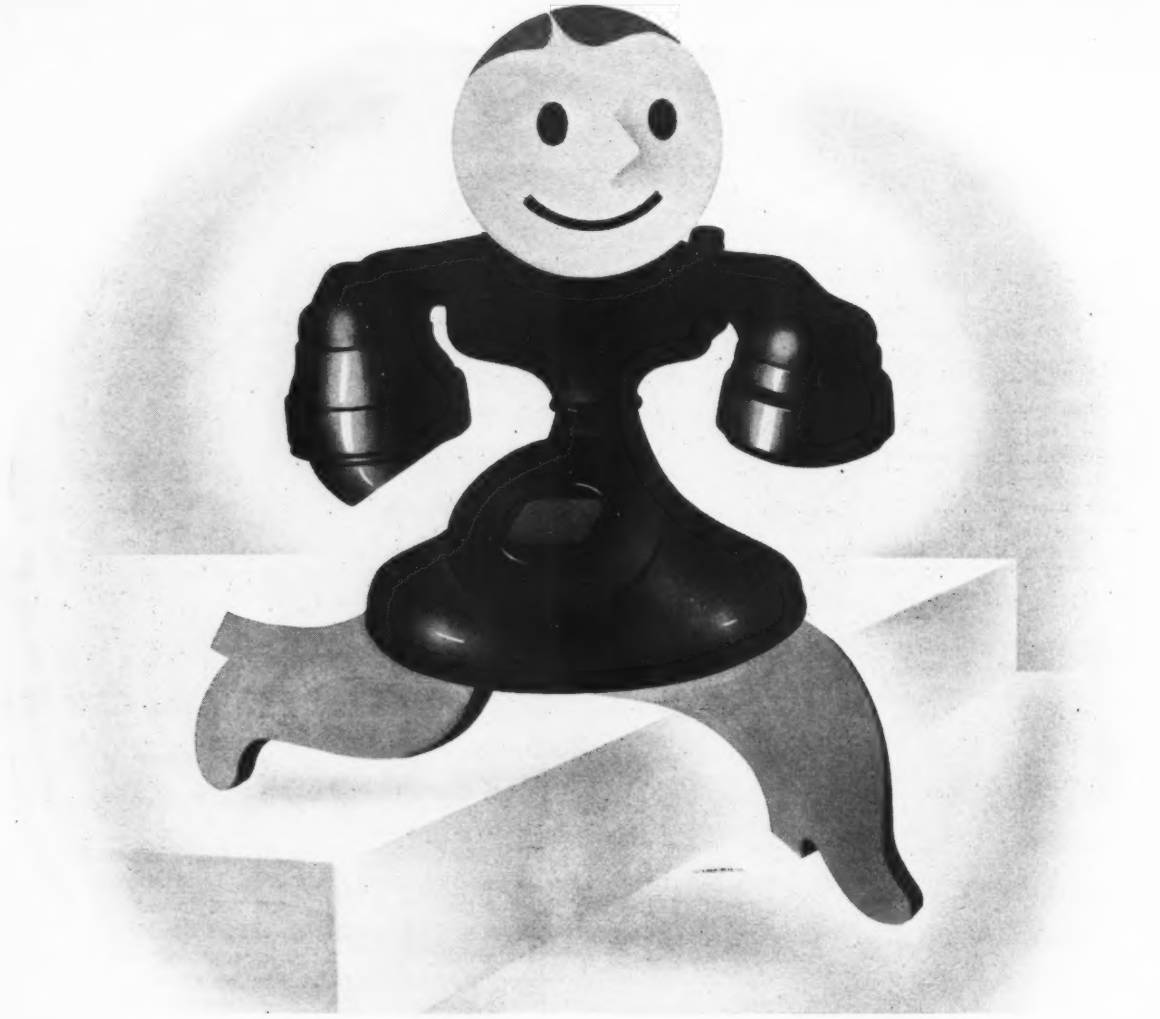

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PAPER PAPER

Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with PAPER TRADE JOURNAL.

Vol. CVI, No. 13 Thursday, March 31, 1938

Established Sept. 21, 1910
Consolidated Feb. 19, 1925
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Castanea Paper Co. Wins In Appeals Court

Decree Handed Down By U. S. District Court of Western Pennsylvania In October 1936 In Which It was Held That Four Sizing Patents Had Not Been Infringed Is Affirmed In Opinion Written By Judge Biggs.

[FROM OUR REGULAR CORRESPONDENT]

The United States Circuit Court of Appeals for the Third Circuit in an opinion filed March 17, 1938 in the case of the Raffold Process Corporation appellant vs. the Castanea Paper Company appellee, appealed from the District Court of the United States for the Western District of Pennsylvania, has affirmed the opinion of the lower court which in the October term 1936 found for the Castanea Paper Company. The case was heard on appeal before Circuit Judges Thompson and Biggs and District Judge Dickinson. The opinion, which is as follows, was written by Judge Biggs:—

In this case certain specified claims of four patents are at issue. The district court held the claims invalid and failed to hold them infringed. All four patents relate to the manufacture of paper.

Briefly, the appellant contends as follows: that Harold R. Rafton its assignor, invented processes or methods whereby (1) a carbonate filler can be used in the commercial manufacture of paper, the mix for which had been sized previously by ordinary types of rosin sizing precipitated by alum, (2) as an alternate or supplement to the process just referred to, the use of paraffin in emulsified form, in lieu of rosin as a sizing agent in the paper made with a carbonate filler, (3) a modification of the process referred to in (2), supra, wherein a "breakable" paraffin emulsion can be used with rosin as the emulsifying agent therefor, plus a changed order of addition of materials to manufacture carbonate filled paper, and (4) the use of starch to prevent excessive foaming in connection with certain paper stocks to manufacture paper with a carbonate filler.

It will be observed in each instance the processes or methods described by the patents purport to deal with problems which arise by the use of a carbonate filler for the manufacture of paper.

As to the Minimizing Patent, No. 1,803,642

This patent is referred to by the parties as the "minimizing" patent and for convenience we will so refer to it. Rafton states, "The principal object of this invention is to provide a sized paper made with a carbonate filler in such manner that deterioration by the carbonate filler of the sizing agent or agents employed is substantially avoided." The deterioration here referred to results from the fact that rosin sizing, precipitated by alum, is acid and the carbonate filler, usually calcium carbonate, is alkali. Therefore, the two act upon each other to their mutual disintegration and with damage to the paper. Rafton's process consists of "minimizing" the time of contact between acid and alkali; or, introducing the alkali, the carbonate filler, into the paper making system in such wise that it comes into less intimate contact with the acid paper mix, because introduced while the latter is in dilute form. In the patent specification Rafton states that his preferred procedure consists of a method whereby both time of contact between the antagonistic materials and the intimacy of their contact is minimized. He states: " . . . the preferred procedure is to add the carbonate filler at or subsequent to the point where the mix is diluted for delivery to the web-forming end of the paper machine. From this point to the point of web formation the time of contact is extremely short and the intimacy of contact is practically at a minimum owing to the high dilution."

Only two claims of the "minimizing" patent are alleged to be infringed by the appellee's process, viz: 1 and 8.[1]

It will be obvious that claim 1 of the patent refers to the "minimizing" of "time of contact between the carbonate filler and the previously sized fiber" and that claim 8 provides a method for filling a sized paper with carbonate filler "when such fiber is in condition to be passed onto a web-forming device of a paper machine."

In order to make plain the respective contentions of the parties, both in regard to the "minimizing" pat-

[1] 1. The method of manufacturing a sized paper filled with carbonate filler comprising adding carbonate filler, in an amount sufficient to impart a substantial degree of filling to the resulting paper, to previously sized fibre in the papermaking process under conditions favoring the minimizing of time of contact between the carbonate filler and the previously sized fibre, and thereafter making paper therefrom.

8. The step in a method of manufacturing a sized paper filled with carbonate filler comprising adding a carbonate filler, in an amount sufficient to impart a substantial degree of filling to the resulting paper, to previously sized fibre when such fibre is in condition to be passed onto a web-forming device of a paper machine.

(Continued on page 26)

Wisconsin Mills Face Higher Freight Rates

State Commission To Grant 10 Per Cent Increase in Accord With I.C.C. —Trucking Companies Expected to Raise Rates.—W. F. Ashe Accepts New Position.—Unions Oppose Wage Cuts.—Other Late Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 28, 1938—Prospect of higher freight rates faces Wisconsin mills, following application of railroads operating within the state to the Wisconsin Public Service Commission to grant them increases of ten per cent. The higher rates would apply to shipments hauled within the state, and would correspond to recent increases granted nationally by the Interstate Commerce Commission. Trucking companies operating as common carriers also are expected to ask for upward revision of rates. Hearing on the application is scheduled at Madison, Wis., April 4, and oral arguments will be heard the following day.

Some advantage probably will accrue to paper mills through an order issued last week by the public service commission granting a reduction of approximately 60 cents per 1,000 feet on logs and lumber shipped to Rhinelander, Wis. Large lumber and timber operators at Rhinelander were instrumental in obtaining the adjustment, on the basis of competitive disadvantages with other firms. Comparable rates showed that shipments from Gladstone, Mich., to Milwaukee, Wis., were 15 cents per 100 pounds, while those from Rhinelander, Wis., to Milwaukee were 17 cents. The new rate granted the Rhinelander territory will equalize the basis. Reductions were denied on timber shipments from northern Wisconsin forest areas to the section around Wausau, Wis.

W. F. Ashe Accepts Position as Director

William F. Ashe, who has been personnel director of the Thilmany Pulp and Paper Company, Kaukauna, Wis., for the last nineteen years, has accepted a $7,000 a year position as the director of a newly created Wisconsin Department of Commerce at Madison, Wis. His choice was unanimous out of 13 approved candidates, one of whom was S. F. Shattuck, vice-president of the Kimberly-Clark Corporation, Neenah, Wis.

This new department of the State of Wisconsin was created by the Legislature to promote the interests of Wisconsin business and industry in line with the wishes of Gov. Philip F. La Follette to make conditions as near right as possible for the State's commercial interests. The department is administered by an advisory board of 17 members headed by the governor. A budget of $75,000 has been appropriated for the fiscal year ending in 1939, to promote increased demand for Wisconsin products, the same as has been done with agricultural products through the Wisconsin Department of Agriculture and Markets.

Mr. Ashe is a graduate of Union College and spent three years in graduate work at the University of Pittsburgh. He served as recreational director for the City of Pittsburgh from 1910 until the entry of the United States in the World War. He was district director of training camp work during the war, and organized camps at Newport, R. I., Petersburg, Va., and the West Indies, Canal Zone and Nicaragua. He has also held executive positions with the American Window Glass Company, the Aluminum Company of America, and the Westinghouse Electric Company. He is winding up his affairs with the Thilmany company preparatory to assuming his new duties.

Foresters Discuss Planting of Spruce

Planting and cultivation methods for additional supplies of spruce for paper making was one of the topics under discussion at a meeting of rangers and executives of national forests at Eagle River, Wis., March 24. Manufacturers are pressing the United States Forest Service to consider this move, Charles A. Rindt, assistant supervisor of the Nicolet National Forest, said at the meeting. An illustrated lecture was given by Vinson H. Paul, associate silviculturalist of the United States Forest Products Laboratory, Madison, Wis., on the subject, "The Relation of Timber Management to the Type of Timber Produced." The topic is one which has gained significance in the last decade, he said. Preparations for the effective fighting of forest fires this season were outlined by K. M. MacDonald, fire assistant in the Nicolet National Forest headquarters at Rhinelander, Wis. A school also was held for the rangers, who number forty.

Unions Oppose Wage Cuts

Opposition to any cuts in wages was set forth in resolutions adopted by 150 representatives of paper mill unions at a regional meeting at Menasha, Wis., Sunday, March 20. Delegates were present from locals of the pulp, sulphite and paper workers' unions in Wisconsin, Minnesota and Michigan, and were assembled at the Twin City Union Club.

Speakers at the meeting were Ray Richards of Wisconsin Rapids, Wis., and Rasmus Anderson, Green Bay, Wis., officials of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. The resolution on wages not only opposed reductions, but advocated increases instead. The conference also went on record opposing married women working where the husband is able to support the family. The next regional meeting is to be held June 12 at Cloquet, Minn.

Plans to Open Great Bend Mill

GREAT BEND, N. Y., March 28, 1938—The Sherman Paper Company plans to reopen its mill here following the signing of order this week by Federal Judge Bryant upon request of Palmer Barnes, trustee. The bankrupt concern plans to start late this week and will fill an order for 90 tons of paper. Several days will be required to fill the order and about 35 hands will be given employment. Another order of 150 tons is expected so it is possible the plant will continue in operation. The company has raw material on hand for about 60 tons but other materials will have to be purchased. It is expected that the order will net a profit of $7.50 to $10 a ton for the benefit of creditors.

Chicago Reports New Price Reductions

Decrease of $5 to $10 Per Ton in Sulphite Bond Papers, With Prices of Other Grades of Paper Unchanged—Paper Men at Packaging Meeting—Swigart Announces New Prices—Credit Men Meet—Other Late News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 28, 1938—The Chicago paper market is concerned over the news of a $5 to $10 a ton decrease in sulphite bond papers. Even color differentials were included in the change which, in itself, is news. There has been some feeling that the reduction would invite action in other lines but so far no such action has been taken. It is reported that book papers, for example, have reiterated their position that there will be no change. No change is expected in krafts. It is noted that volume has increased markedly in sulphite bond circles but those close to the market feel that this is because buyers feel the decline so drastic as to make an upward turn almost a certainty.

Business in this area is no worse than last week and there are some signs of a pick-up. Demand in most lines of paper has shown a slight improvement. The waste paper market continues in a rather demoralized condition.

Mid West Credit Group Meets

Chicago is host this week to the second annual midwest credit conference of the paper industry sponsored by the National Association of Credit Men and the 28 affiliated credit associations in the middle west. Conference got under way on March 25 with H. L. Brunner, Central Fibre Products Company, Inc., as the general chairman, and with all sessions scheduled for the Hotel LaSalle. Speakers on the program are Thomas W. Peck, Kalamazoo Vegetable Parchment Company; Rhae M. Swisher, management engineer; Herbert V. Prochnow, vice president First National Bank of Chicago; Walter P. Paepcke, president of the Container Corporation of America; George M. Groves, president of the Groves Shoe Company and Royal F. Munger, financial editor of the Chicago Daily News.

The afternoon session was given over to a separate round table meeting for paper manufacturers, converters, paper board manufacturers, wax paper manufacturers, fine paper merchants and coarse paper merchants. Subjects to be discussed included the specific business situation; handling of credits in the paper industry; development of statistics covering credit matters; the building of sound credit relationships and similar matters.

West Virginia's Mailing Piece Popular

One of the most popular promotional items circulated in Chicago during the past few months has been the "Printing Develops New Frontiers" series of the West Virginia Pulp and Paper Company, mailed out from the Chicago offices. Each piece in the series has treated of an individual topic, inserts, travel literature, catalogs, store advertising, displays, color, house organs, etc.

Paper Men at Packaging Conference

Quite a number of Chicago paper executives were noticed in attendance at the Eighth Annual Packing Conference and Exposition held at the Palmer House, Chicago, during the week. The Exposition surpassed all others in point of types of exhibits, thoroughness of displays and sound use of paper products. A feature of the program was the awarding of the Irwin D. Wolf awards with Montgomery Ward & Company receiving an award for the most effective package employing a single color; Armour and Company winning for the most effective use of merchandising ingenuity and the Cudahy Packing Company for the most effective package insert. The grand award and trophy went to the Hoover Company, North Canton, Ohio, for its ensemble cleaner and carton and cleaning tool kit. The competition, and the exhibition, was sponsored by the American Management Association.

Swigart Announces New Prices

The Swigart Paper Company this week reported new reduced prices on a number of items. Reductions were reported on Hammermill Bond, bond finish, white and colors; Hammermill Bond, ripple, rippletone and linen finishes in white and colors; Hammermill Laid, antique; Hammermill Ledger, white and buff; Hammermill Writing, white; Hammermill Mimeograph, White wove, colors wove, white laid and colors laid; Hammermill Duplicator, white and colors; Management Bond, white and colors and New York Bond, white and colors. The price changes were reported effective as of March 18.

Government Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 30, 1938—Barton, Duer & Koch Paper Company has been awarded the contract for furnishing the Government Printing Office with 106,000 pounds (237,000 sheets) of 32½ x 48½ white sulphite index paper at 6.11 cents per pound, bids for which were received on March 14.

The same firm will also furnish 200,000 pounds of manila calendered tag board, in 23¼ inch and 26½ inch rolls at 7 cents per pound, bids for which were received on March 7.

The Cauthorne Paper Company will furnish 5,840 pounds of blue and green 20 x 25 gummed paper at $7.74 per M sheets. The R. P. Andrews Paper Company will furnish 77,810 pounds (310,000 sheets) of 39 x 51 white single coated book paper at 7.3 cents per pound. Bids for these items were received on March 4.

The following bids were received for 50,000 pounds of manila calendered tag board: Stanford Paper Company, 7 cents and Barton, Duer & Koch Paper Company, 7 cents.

For 1,780 sheets of 20 x 25 gummed paper: Virginia Paper Company, $23.14; Mathers-Lamm Paper Company, $18.70; R. P. Andrews Paper Company, $16.02; Whitaker Paper Company, $17.25; Walker, Goulard, Plehn Company, $24.92 less 2 per cent; Reese & Reese, Inc., $17.02; Stamford Paper Company, $21.36; and Cauthorne Paper Company, $17.80.

Only One Mill Erected In Ontario In Year

Lake Sulphite Plant at Red Rock Only Mill Out of Nine Proposed Erections Built Within Year—Kenora Installing New Hot Acid System—Ontario Pulp Assn. Meeting—Revenue From Forests — Other Late News.

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 28, 1938—During the early part of last year when business in the pulp and paper line was booming, there was an impetus to erect new plants and several agreements were entered into with the Ontario government, by companies or individuals, for the construction of mills. Only one of the nine pacts has resulted in the erection of a mill and that was the Lake Sulphite Pulp Company at Red Rock. The work on this plant ceased some time ago pending an attempt to refinance the project. Hon. Peter Heenan, Minister of Lands and Forests for Ontario, recently reported that the following agreements had been made calling for the erection of pulp mills but no construction has yet got under way:—Huron Forest Products, Limited, mill to be erected on the North Shore of Lake Huron; General Timber Company, Limited, mill to be located at a point satisfactory to the Department; Sault Pulp Products, Limited, mill to be located on the north shore of Lake Superior; Nipigon Corporation, mill to be located at Nipigon; Pulpwood Supply Company Limited, mill to be located on the north shore of Lake Superior; Western Pulp and Paper Company Limited, mill to be located in or near Fort William; Vermilion Lake Pulp Limited, mill to be located in the vicinity of Sioux Lookout and the English River Pulp and Paper Company Limited, mill to be located at or near Kenora. Pending adjustment of details with former holders of the property the agreement with the Western Pulp and Paper Company has not yet been delivered. It is not likely that any of the foregoing projects will be carried out, it is reported, until there is a general betterment in industrial conditions and a decided improvement in the pulp situation.

Kenora Installing New Hot Acid System

In the sulphite pulp plant of the Kenora Paper Mills at Kenora, Ont., the installation of a new chemipulp or hot acid system is being completed. The installation incorporates the most modern features of the sulphite milling branch of the industry and is expected to allow the handling of more wood at less expense than is possible at present. The central point in the process is a huge still accumulator, which is 26 feet in diameter. This large sphere is electrically welded and is the first sphere of its size to be electrically welded in Canada. The accumulator tank is lined with brick, set in a special mortar. The process, formerly in practice in the sulphite mill, treated the wood chips in the digesters with cold acid and then with steam. The digesters tanks were filled with chips and then the cold acid was introduced into the tank, erected outside of the mill. The new process, by introducing warm acid into the digester tank, allows chemical action to proceed without the aid of such a great amount of steam as was formerly necessary. The acid is allowed to be in contact with the wood chips for a longer period under the new system before the steam is turned on. When the "cooking" stage is arrived at, therefore, the heat is necessary only to raise the temperature to the desired level and not to assist in the chemical reaction, as is at present the case. The "relief" gases, under the new process, are piped back directly to the accumulator tank to be again introduced into the circuit.

Ontario Pulp Association Meeting

The twenty-third annual general meeting of the Ontario Pulp and Paper Makers Safety Association, of which W. S. Barber is president and D. B. Chant, secretary-engineer, will be held at the King Edward Hotel, Toronto, this week when officers will be elected for the coming year. The annual reports will be presented as well as the trophies for accident prevention competitions and first aid contests.

Revenue from Lands and Forests

According to Paper Trade the budget presented by Hon. M. F. Hepburn, Premier and Treasurer of Ontario, the revenue from the Lands Branch this year will exceed $800,000, and from the Forests Branch $3,540,000, or a total of $4,340,000. Mr. Hepburn said that the expenditures of the Department of Lands and Forests will amount to $2,290,000, showing a net revenue from this Department, of $2,050,000. The cut of log timber for lumbering purposes during the fiscal year is estimated at 240,000,000 feet, or over 90,000,000 beyond the average of the previous seven-year period. Pulpwood has been cut from crown lands to the extent of one and three-quarter million cords, or nearly 40 percent in excess of the average cut since 1930. Mr. Hepburn said that the reduction made by the government in stumpage prices played no small part in encouraging bush enterprises, and re-creating a spirit of thrift, as well as saving the morale of many anxious workers. Notwithstanding stumpage concessions the revenue of the department will approximate $4,500,000, the highest revenue in eight years.

New Wage Agreement for Pulp Wood Workers

A conference was recently held at Port Arthur, Ont., to draft a new agreement under the Industrial Standard Act to apply to the timber and pulpwood industry in the Thunder Bay area for the year commencing April 1st. Over 4,000 men in the district are affected by renewal of the wage scale entered into a year ago. Hon. M. M. MacBride, Minister of Labour for Ontario, said that the agreement had been concluded by Louis Fine chief conciliation officer. It ensures prevailing wages in the logging industry until April 1st, 1939.

Ontario Pulpwood Exports Larger

The exports of pulpwood from Ontario during the 1937 fiscal year amounted to 382,683 cords compared with 283,679 cords in the previous year. On this total 114,235 cords were taken from Crown lands of the province, the cordage from privately owned lands not being subject in any way to provincial control.

Paper Merchants Denounce New Sales Tax

Philadelphia Paper Trade and Paper & Cordage Associations Discuss 2 Per Cent Sales Tax in Effect March 1.—Letter of Formal Protest Sent By Paper & Cordage Association to City Council.—Shad Dinner in April.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 28, 1938—Denouncement of the 2 per cent sales tax imposed on the amount of every sale here, was made the main subject of discussion in the recent meetings of the Paper Trade Association of Philadelphia, and Philadelphia Paper and Cordage Association, Inc.

On Tuesday evening last the Fine Paper Division of the Paper Trade Association with fifty members present, assembled at dinner in the Hotel Adelphia at 6 o'clock, after which J. Warren Brock, Esq., member of the law firm of Edmonds, Obermayer and Rebmann, counsel for the Association, reviewed the requirements of the city sales tax ordinance that went into effect March 1st. Mr. Brock's answers to the many questions put to him by the members were enlightening. The blanks for this tax are being sent out today from the offices of the Receiver of Taxes; these sales tax blanks must be filled out and returned with checks for tax collected in March. All returns must be in before April 15. Each dealer gets a 1 per cent fee for collecting the tax.

William A. Hentz of The Thos. W. Price Paper Company, presided, and outlined the plans of the Association for the coming year. Reporting on the educational activities he stated that out of 154 who enrolled in the Salesman's Study Course, 124 took the examination, and out of these 124 there were 122 who graduated.

LeRoy S. Bishop, treasurer of Raymond & McNutt, and treasurer of the Association, who served as a member of the National Survey Committee for this Association, explained the analysis of the survey of costs for the year of 1937, illustrating his talk with 9 slides. Mr. Bishop was followed by W. B. Killhower, president of the Association, and delegate for the fine paper division, who reported very fully on the activities at the Convention on both fine and general matters.

J. R. Howarth of J. R. Howarth Paper Company, who was appointed chairman of the New Membership Publicity Committee, said he was very glad to accept the office of chairman of this committee because he had a feeling it would be a very easy job, considering that about 90 per cent of all the paper merchants throughout the United States were members of the local or the National Paper Trade Association. He further stated "Whenever I hear the remark—'What do I get out of paper trade associations?'—my answer is SUCCESS in every sense of the word. It has always been a great wonder to me why non-members hesitate to join what I consider one of the finest fraternities in the United States, which is the life blood of their very business."

It was pointed out in these columns last week, that a resolution was passed at the March meeting of the Philadelphia Paper and Cordage Association, directing former president of the Association, E. K. Lay and George J. Byrnes of Aatell and Jones to write a formal protest to the president of City Council, voicing the disapproval of the Philadelphia Paper and Cordage Association and its members of the sales tax.

Letter Sent to City Council

In accordance with this resolution, there was sent under date of March 25, over the signature of Jack J. Shinners, Jr., Secretary, the following letter of protest to City Council:

"At the regular monthly meeting of the Philadelphia Paper and Cordage Association (comprising 103 members, employing approximately 4,000 men and women) held at the Hotel Adelphia on Friday, March 19th, a resolution was passed directing the Secretary to send a letter of protest to the members of the Council of Philadelphia regarding the imposition of the Sales Tax upon Philadelphia business.

"The meeting was devoted primarily to the study of the harmful effects of the recently enacted City Sales Tax on the business of our members. Particularly with reference to Section #2 titled 'Imposition of Tax' and with that phase of it specifically stating that there should be a tax of 2 per cent on the amount of every sale in the city of Philadelphia whether delivery be made within the city of Philadelphia or to any other point within the Commonwealth of Pennsylvania.

"The imposition of a Sales Tax originating in and for the benefit of the City of Philadelphia has hurt and will eventually kill all sales made by Philadelphia merchants for delivery to points outside of the city as well as within the State.

"The margin of profit in the paper business is so small that it is not possible for these merchants to absorb the tax and thus maintain the desired business relationships with their out-of-town customers.

"It was also the consensus of opinion at the meeting that the honorable members of City Council did not give this phase of the Sales Tax the consideration it deserved when the bill was drafted, and we are confident that the presentation to you of our problem will result in the reconsideration and speedy revision of this phase of the bill—(Imposition of tax on sales made to customers living outside of city).

"This letter of protest is being mailed, individually, to each member of the City Council. Our organization would welcome the opportunity of sending a representative or a committee to the City Council to present our side of the problem to your honorable body so that full consideration will be given this petition."

Annual Shad Dinner in April

The annual shad dinner of the Philadelphia Paper and Cordage Association, Inc., will take place at the Poor Richard Club on *Thursday, April 7th,* and not Friday, April 8th, as was stated in these columns last week.

Financial News of Pulp and Paper Industry

Kimberly-Clark Report Higher Sales and Earnings — Champion Paper Offer New Issue of Debenture Bonds—Abitibi Earnings Lower—Franklin and Newton Companies File Statements — Other Late Financial News.

NEW YORK STOCK EXCHANGE

High, Low and Last for the Week Ending March 30, 1938

	High	Low	Last
A. P. W.	2¼	2⅛	2⅛
Armstrong Cork Co.	27⅝	24½	26
Celotex Corp.	16½	12½	14¾
Celotex Corp., pf.	46	46	46
Certain-Teed Products Corp.	5⅜	4½	4½
Certain-Teed Products Corp., pf.	21⅞	19	19
Champion Paper & Fibre Co.	22	18⅜	19
Champion Paper & Fibre Co., pf.	99½	99½	99½
Congoleum-Nairn Co.	17¾	15	15
Container Corp. of America	12⅝	10	10
Continental-Diamond Fibre Co.	7	6⅝	6¾
Crown-Zellerbach Co.	9	7½	7⅝
Crown-Zellerbach Co., pf.	58	58	58
Flintkote Co.	14⅜	10⅞	11½
Robert Gair	3½	2⅝	2⅝
Robert Gair, pf.	11	10	10
International Paper & Power	6¼	4¼	4¼
International Paper & Power, pf.	25¾	19	19¼
Johns-Manville Corp.	69	58	59¾
Johns-Manville Corp., pf.	125	122	125
Kimberly-Clark Corp.	22¼	20	20
MacAndrews & Forbes	25¾	22	22
MacAndrews & Forbes, pf.	116⅝	116⅝	116⅝
Masonite Corp.	28½	25	25½
Mead Corp.	9½	6¾	7¼
Mead Corp., pf.	62	50	61½
Paraffine Companies, Inc.	35	31	31
Paraffine Companies, Inc., pf.	91	91	91
Ruberoid Co.	15	13⅝	13⅝
Scott Paper Co.	39	34¾	35½
Sutherland Paper Co.	19¾	17⅞	17⅞
Union Bag & Paper Corp.	9⅛	7⅝	7⅝
United Paperboard Co.	4	3	3⅛
U. S. Gypsum Co.	61½	56	57
U. S. Gypsum Co., pf.	162½	162¼	162¼

NEW YORK CURB EXCHANGE

High, Low and Last for the Week Ending March 30, 1938

	High	Low	Last
American Box Board Co.	8	6½	6½
Brown Co., pf.	19	15½	15½
Great Northern Paper	27½	26½	26½
St. Regis Paper Co.	2¾	2⅛	2⅛
St. Regis Paper Co., pf.	48	42	42
Taggart Corp.	3½	2⅛	3

Kimberly-Clark Sales and Profits Up

[FROM OUR REGULAR CORRESPONDENT]

NEENAH, Wis., March 28, 1938—In a statement issued to stockholders last week, F. J. Sensenbrenner, president of the Kimberly-Clark Corporation, expressed confidence conditions will soon show improvement. He said there has been recent evidence of a flattening of the business curve, indicating the recession is near the bottom of its swing, and that the next change will be upward. This development can come, he said, if the government will recognize that business must be encouraged and not discouraged.

The report to stockholders announced net profits of $2,360,417 for 1937, compared to earnings of $1,437,265 in 1936. The 1937 earnings were $3.61 per common share after issuance of preferred dividends, compared with the 1936 net of $1.75 per share.

Net sales jumped from $22,863,000 in 1936 to $27,249,000 in 1937. The company placed $786,791 in an earned surplus account, raising it to $2,767,000, after providing for payment of dividends.

Current assets of the company as of December 31 totalled $10,966,000, including cash of $1,204,000 and government securities of $1,063,000, Mr. Sensenbrenner reported.

Current liabilities were listed at $3,545,000, including accrued taxes of $1,386,000.

Champion Paper Offers $5,500,000

W. E. Hutton & Co. and Goldman, Sachs & Co., jointly, head a banking syndicate that on Monday offered by means of a prospectus, a new issue of $5,500,000 Champion Paper and Fibre Company 4¾ per cent sinking fund debentures due September 1, 1950. The securities are priced at 99½ and accrued interest.

The issuing company intends to use the major portion of the proceeds of this financing for the retirement of bank loans, commercial paper and purchase money obligations, and for completion of plant additions and betterments aggregating about $3,920,000 now in progress. The balance will be used for additional working capital.

Associates of the syndicate leaders are Kidder, Peabody & Co., Lee Higginson Corp., W. C. Langley & Co., Hornblower & Weeks, Hemphill, Noyes & Co., Piper, Jaffray & Hopwood, R. S. Dickson & Co., Inc., and Johnson, Lane, Space & Co., Inc. The prospectus indicates that underwriting commissions or discounts are 3½ per cent, so that proceeds to the issuer will be $5,280,000, or 96 per cent of par.

The debentures will be direct obligations of the company, but will not be secured by any lien. The company agrees, however, that it will not mortgage or pledge or create any lien upon any of its property, or permit any subsidiary to do so without effective provision being made for securing the debenture equally and ratably with the other indebtedness secured by such lien.

Abitibi Earnings for February Lower

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 27, 1938—The earnings of the Abitibi Power and Paper Company, Iroquois Falls, Ont., for February, prior to charges for depreciation and bond interest, amounted to $77,469, compared with $114,219 for January and $262,893 for February, 1937. Shipments of newsprint in February amounted to 16,004 tons as compared with 18,058 tons in January and 29,338 tons in February, 1937, and it is expected that the shipments during March will be around 17,500 tons. Shipments of bleached sulphite in February amounted to 1,937 tons compared with 2,150 in January and 5,433 tons in February, 1937. Shipments in March will likely be around 2,150 tons.

Wisconsin Commission's Income Report

[FROM OUR REGULAR CORRESPONDENT]

MADISON, Wis., March 28, 1938—Wisconsin Public Service Corporation, serving the paper mill sections of the Wisconsin River Valley and the lower Fox River Valley, has transferred to its surplus account a net income for 1937 operations of $1,391,868, according to its annual report filed with the Wisconsin Public Service Commission.

Gross revenues were $7,922,423.05, according to D. W. Faber, Milwaukee, Wis., secretary of the company. Valuation of its properties is listed at $44,548,439.

Application has been made by the company to the state commission for approval of $1,500,000 worth of improvements to its Grandfather Falls plant near Tomahawk, Wis. The application will be heard by the commission April 8. The project calls for a canal to divert waters from the Wisconsin River above the present dam and conduct it downstream half a mile to a point where it will be piped into the power house to operate generators. A new power house is to be built at this point, as previously announced.

Franklin Paper Co. Files Statement

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, March 28, 1938—A statement of condition, recently filed by the Franklin Paper company of this city, is as follows: Assets, cash, $13,076; accounts receivable from customers, $30,428; merchandise, $104,194; supplies, $3,321; raw materials, $19,689; real estate, $93,423; machinery, $97,366; furniture and fixtures, $1,132; life insurance, $4,-251; prepaid insurance, $5,664. Liabilities,—accounts payable, $12,168; notes and acceptances payable, $15,403; accrued expenses, $4,822; mortgages on real estate and machinery, $15,292; reserve for depreciation, $108,575; reserve for cash discount, $750; reserve for bad debts, $1,600; inventory discount, $15,000; capital, $50,000; surplus, $148,934.

Newton Paper Co. Files Statement

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, March 28, 1938—The Newton Paper company recently filed a statement of condition as follows—Assets, cash, $12,471; accounts receivable from customers, $34,481; from others, $13,497; notes receivable from customers, $4,073; merchandise, $20,137; supplies, $33,688; short term investments $10,407; securities, $25,000; real estate, $100,931; machinery, $289,162; motor vehicles, $999; furniture and fixtures, $3,006; prepaid insurance, $1,862 treasury stock, $2,726; Liabilities, accounts payable, $16,331; reserve for depreciation, $218,290; capital stock, $72,000; surplus, $245,823.

Steam Plant for Northern States Power

[FROM OUR REGULAR CORRESPONDENT]

LA CROSSE, Wis., March 28, 1938—Construction is contemplated by the Northern States Power Company of a $1,500,000 electric generating steam plant here. Approval is awaited from the Wisconsin Public Service Commission. The entire lower end of French Island, northwest of the city, has been purchased as the site.

Little Rapids Pulp Files Amendment

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 28, 1938—An amendment to the articles of incorporation of the Little Rapids Pulp Company has been filed with the secretary of state at Madison, Wis. It decreased the number of directors from five to four. The amendment was signed by K. S. Dickinson, president, and Heber H. Pelkey, secretary.

Indianapolis Demand Expands

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., March 21, 1938.—Little change was seen the last week in the paper market here. Business is below a year ago, but in some lines there have been indications of some expansion. For one thing, the paper box manufacturers are getting back into production after having been working half time or less. Labor difficulties, which had a lot to do with lack of production in some of these plants, seem to have been reduced to a new low. Box manufacturers say there is a widening of demand that promises a brighter spring season than had been hoped at one time.

Demand for cellophanes and waxed papers continues good. Local wax paper makers say demand particularly from bakeries and similar industries is holding up nicely. Tissues also are moving in fair volume.

The fine paper market has not reacted as favorably as was expected. Inquiries are coming in from a number of printers who have secured county and state contracts, but the general tone of the market is off. Prices, however, are being well held. Covers are apparently better situated than most of the others in the fine paper list.

A good season is expected in the building paper field. Some buying has started and all indications point to a strong demand during the entire building season, particularly if general business conditions show some favorable reaction. The price level will be about the same as last year.

Small container demand shows a trifle improvement, most of it coming now from the early ice cream trade, which apparently has started earlier this year than usual. Bag demand is fair as is that for wrapping paper, but the volume is considerably below a year ago.

Paper stock men report a slowmill demand and unsatisfactory paying prices. Most of the demand is for better grade paper and rags, the lower grades apparently being a drug on the market.

Bowaters Expanding in Newfoundland

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 28, 1938—Bowaters and Lloyds Newfoundland, Limited, a subsidiary of Bowaters, Limited, British newsprint company, has negotiated a contract with Reid Newfoundland Company for purchase of 4,000 square miles of forest property on east coast of Newfoundland.

The contract will probably be signed in June said Eric W. Bowater, president, prior to his departure for England. Plans include the building of a sulphur mill on the property and the parent company will guarantee an adequate profit to the subsidiary. Total cost will be about $10,000,000.

Interest and Dividend Payments Declared

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 27, 1938—The Great Lakes Paper Company, Limited, Port Arthur, Ont., will make its regular half yearly interest payment when due on its five per cent, first mortgage bonds, on April 1st next. This follows resumption of regular payments last October. Provincial Paper, Limited, Toronto, has also declared its quarterly dividends of one and three quarters per cent to shareholders, payable on April 1st next.

Paper Exhibit For Museum Of Science

Plans for a comprehensive exhibit of paper making and paper products proposed for the Museum of Science and Industry were discussed at a meeting of the Salesmens Association of the Paper Industry, Monday at Hotel Sherman, Chicago. John R. Diggs, president of the association introduced Dr. Philip Fox, director of the museum, and called upon William Bond Wheelwright, editor of *Paper and Printing Digest* to introduce the speakers, D. M. MacMasters, assistant curator in graphic art, and Dr. Charles R. Moulton, curator of chemistry. Motion pictures were used to show typical scenes at the museum, and the sequence of exhibits which include graphic arts, forestry, chemistry, and the proposed demonstration of papermaking which are gradually being assembled was described.

George G. Cobean, president of the National Paper Trade Association, and D. Clark Everest, president of the American Paper and Pulp Association, were invited to represent the two main organizations of the paper industry, and many prominent local paper merchants attended as guests of the members of the salesmens association.

The hope was expressed that the paper exhibit might be assembled in time for the 250th anniversary of paper making in the United States in 1940. This same year will be celebrated also as the 500th anniversary of the invention of movable type by Johan Guttenberg.

The objectives of the proposed paper exhibit were described by Mr. Wheelwright preliminary to his introduction of the speakers as follows:

An Opportunity for the Paper Industry

Our common interest in the paper industry has brought us together today to learn of the great opportunity offered at the Museum of Science and Industry to assemble a permanent demonstration of the art of papermaking and of paper and paper products. This is a matter of concern to the industry as a whole. It will appeal to every one of us who has the least pride in his vocation. It will require the cooperation of every branch of the paper industry to succeed.

Before introducing the gentlemen who have so kindly come to portray in film and word the facilities and function of the Museum, it seems appropriate to outline very briefly the benefits which the paper industry may receive and confer.

Although there is plenty of competition within the industry, there is an increasing amount of interindustrial competition. In the field of communications paper and printing must compete with the telephone and radio. In industry paper must compete with wood, textile, glass, rubber, tin, building materials, floor coverings, and dozens of household necessities. Culturally and economically paper has proven indispensable to civilization, but its potentialities are hardly realized yet by the mass of mankind. We have a mutual interest in making the world paper conscious.

It has been said that the most important man in Chicago is the window dresser for Marshall Field's. He is the fellow who shows the goods. What the paper industry needs is a lot of good window dressing, and, in looking at it from the commercial viewpoint we have an opportunity to become the window dressers for the entire industry. The Museum of Science and Industry is actually offering us without charge, one of the best display windows in the United States.

But we do not regard this matter merely from a commercial angle.

The paper industry takes a justifiable pride in its cultural importance. H. G. Wells, in his Outine of History made three significant remarks on the subject. He said: "One item in this account must be underlined here because of its importance to mankind—the manufacture of paper . . . It was the introduction of paper from the East that made practical the long latent method of printing . . . It is scarcely too much to say that paper made the revival of Europe possible."

The illiteracy of the world was widespread until after the invention of paper and printing. Knowledge was a monopoly of the few until after the dawn of the machine age in papermaking and printing. Today, the freedom of the press is perhaps the most jealously guarded guarantee of a free people against dictatorship. Freedom of the press presupposes the prolific functioning of paper mills and printing presses.

The space tentatively alloted for the paper exhibit in the Museum adjoins that of the graphic arts. On the other side of paper will be exhibits of chemistry and forestry. How shamefully conspicuous the paper industry would be if its logical place in this sequence were lost by default. Yet it must be understood that this will happen unless all of us pull together to supply the materials and machinery. After we shall have heard the part that paper is cast to play in this drama of industry we cannot believe that it will fail.

The timeliness of getting together to learn about this valuable opportunity for dramatizing paper is remarkable. This year happens to mark the 300th anniversary of the bringing to the American Colonies of the first printing press. Two years hence the 500th anniversary of the invention of movable type will be celebrated. The very same year, 1940, will be the 250th anniversary of the establishment of papermaking in the Western Hemisphere.

Already the Technical Association of the Paper Industry has begun to think about celebrating this event, and has had their attention called to the possibility of cooperating in establishing a paper exhibit national in its implications. The important and central location of Chicago befits it to become the home of such an exhibition. This meeting is your personal invitation to participate individually and collectively to assure paper a suitable and worthy place in the American industrial scene.

Elliott Corp. to Make Paper Specialties

INDIANAPOLIS, Ind., March 28, 1938—Articles of incorporation have been filed with the Indiana secretary of state by the Elliott Corporation, New Paris Pike, Richmond, Ind., formed to manufacture paper specialties. The corporation has 100 shares of no par value capital stock and the incorporators are Dwight A. Elliott, Donald R. Rankin and Gladys Elliott.

Superintendents Plan for Toronto Meeting

A meeting was held on Saturday morning, March 19, of several members of the general convention committee for the 1938 Convention of the American Pulp and Paper Mill Superintendents Association, Inc. at the Royal York Hotel, Toronto, Ont., Canada. There were present Mr. and Mrs. B. D. Millidge, Howard Smith Paper Mills, Ltd., Cornwall, Ont.; Mr. and Mrs. R. W. Hynes, Newton Falls Paper Co., Newton, Falls, N. Y.; Mr. and Mrs. A. E. Fair, Alliance Paper Mills, Merritton, Ont.; Mr. and Mrs. H. E. Karberg, Alliance Paper Mills, Merritton, Ont.; J. N. Stephenson, Pulp and Paper Magazine of Canada, Gardenvale, Que.; E. J. Thom, Howard Smith Paper Mills, Ltd., Montreal, Que.; G. W. Craigie, convention manager.

The following committee chairmen were announced: General committee, B. D. Millidge; Ladies' committee, Mrs. R. W. Hynes; Reception committee, C. E. Youngchild; Sports, J. N. Stephenson; Mill Visits, A. E. H. Fair; Boat, E. J. Thom.

The convention facilities of the hotel were thoroughly inspected and the entire convention committee expressed its surprise and hearty approval of excellent facilities available. All the Convention activities are to be held on the second floor of the hotel which is the Convention Floor. This floor covers a total of 53,000 square feet and contains a large foyer, an exhibit hall, one large and two small meeting rooms, and a convention or dining hall equipped with organ and large stage and seating nearly 1000 people. A separate kitchen for service to these rooms is located on this floor. Hotel appointments are excellent.

Mill visits will be urged on Monday and Tuesday, June 20 and 21, before the convention opens on June 22. Arrangements will be made so that superintendents can visit mills on the way to and from the convention rather than to take convention days for this. Every effort will be made to have the meetings well attended and the program as outlined to date is distinctly worthwhile.

An item of interest is the fact that already, without any solicitation to urge room reservation, over 350 individuals have reserved rooms and hotel suites are practically all gone.

Railroad officials are already working on groups for special cars. It looks as though the 1938 Convention would be the largest ever held by the superintendents Association.

The Hon. Mitchell Hepburn, Prime Minister of Ontario, has consented to be the guest speaker at the joint banquet on Friday evening. The toastmaster will be Mr. Harold Crabtree, President of Howard Smith Paper Mills, Ltd.

The program is as follows:

Tentative Program

MEN'S PROGRAM

MONDAY-TUESDAY		Mill Visits
TUESDAY	P. M.	Registration
	7:30 P. M.	Exhibitors' Dinner
WEDNESDAY	A. M.	Registration Exhibits
	11 A. M.	General Session
	12:30 P. M.	Men's Luncheon at Royal York.
	2-5 P. M.	General Session
	6 P. M.	Dine where you will.
	9 P. M.	Boat trip on Lake Ontario Dancing on boat.
THURSDAY	9:30-12:00	Group Meetings.
	12:30	Lunch where you will. (at golf club or hotel)
	P. M.	Skeet Shooting — Golf — Other Sports. Sunnyside Park (Swimming Exhibition)
	6 P M.	Dine where you will.
	8:30 P. M.	Smoker at Royal York. Special Entertainment.
FRIDAY	A. M.	Exhibits
	12:30 P M.	Men's Luncheon at Royal York.
	2-5 P. M.	General Session
	7:30 P. M.	Joint Banquet at Royal York. Presentation L. D. Post trophy. Presentation Past Pres. Jewel. Entertainment-Dance

LADIES' PROGRAM

TUESDAY	A. M.	Registration and Golf.
WEDNESDAY	A. M.	Registration
	1:45 P. M.	Luncheon at T. Eaton Co. store. Round Room—College St.
	P. M.	Trip through T. Eaton Co. stores. Musicale.
	6 P. M.	Dine where you will.
	9 P. M.	Boat trip on Lake Ontario. Dancing on boat.
THURSDAY	A. M.	Trip through Hotel.
	NOON	Lunch where you will.
	P. M.	Golf Sunnyside Park (Swimming Exhibition)
	7 P. M.	Ladies' Dinner at Royal York Special Entertainment.
FRIDAY	A. M.	Sight seeing. Shopping
	11 A. M.	Trip through Casa Loma.
	NOON	Luncheon at Old Mill. Bridge.
	7:30 P. M.	Joint Banquet at Royal York. Presentation L. D. Post trophy. Presentation Past Pres. jewel. Entertainment-Dance.

Persons wishing to play golf before the Convention see a member of Sports Committee at Information Desk.

Southeastern TAPPI Members To Meet

Members of the Technical Association located in the Southeastern States are planning an informal meeting in Savannah, Thursday, April 28. The meeting is to discuss the formation of a South Atlantic Section of TAPPI.

There are a hundred members of the Technical Association and as many more potential members engaged in pulp and paper work in the South Atlantic States. At present there is no Section of TAPPI the meetings of which can be attended conveniently by those located south of Virginia. Because of this isolation and because the Southern mills are practically all of the same type, it is felt that a local section of the Technical Association would serve to bring together technical men of similar interests to their mutual benefit both professionally and socially.

The preliminary gathering to discuss ways and means of initiating and supporting the local section has been scheduled for 2:30 P.M. Thursday, April 28, at the Hotel DeSoto, Savannah, Ga. A temporary organization to further the formation of the section will probably be set up at that time. It is expected that R. G. Macdonald, Secretary of the Technical Association, will be present. In addition to the informal business meeting a short technical program has been arranged. Papers of "The Trend of the Southern Paper Industry" and "Wood Pulp for Chemical Uses" will be presented. There will be no registration fee.

This gathering of TAPPI members and associates coincides with the Spring meeting in Savannah of the Electrochemical Society. The Electrochemical Society's Convention is from April 27 to April 30 at the Hotel DeSoto. Thursday morning, April 28, 9:00 A.M. to 12:00 M. the Electrochemical Society has scheduled a Technical Session dealing with electro and physical chemistry in the pulp and paper industry. Bleaching of wood pulp, filling of paper and corrosion in sulphate mills will be discussed. Members of the Technical Association and others attending the TAPPI meeting are cordially invited by the Electrochemical Society to participate in this Technical Session. They are also invited to be present at the Thursday noon luncheon when D. H. Bissel will speak on "Chromium Plating for the Paper Industry". Registration fee of the Electrochemical Society meeting, necessary for the admittance to their functions, is $2.00. The Electrochemical Society will announce in a short time the complete program of its meeting.

The program for Thursday, April 28, of interest to the Pulp and Paper men is accordingly as follows:

9:00 A.M.-12:00 M.—Technical Session (Electro-Society) Electro and Physical Chemistry in the Pulp and Paper Industry. Papers on Bleaching, Filling, Corrosion, Cellulose Reactions, etc.

12:30 P.M.—Luncheon—(Electrochemical Society) Speaker—D. H. Bissel: "Chrome Plating for the Paper Industry".

2:30 P.M.—Gathering of TAPPI members and associates in the Gold Room, Hotel DeSoto. Temporary organization to further the formation of a South Atlantic Section. Talks on "Trends of the Southern Paper Industry" and "Wood Pulp for Chemical Uses".

Hotel reservation should be made directly with the Savannah Hotels, or the DeSoto Hotel in Savannah. Arrangements for the meeting are being taken care of by D. G. Moon and Charles Carpenter.

New England Paper Merchants Meet

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 28, 1938—The March meeting of the New England Paper Merchants Association was held Thursday evening in the Boston Chamber of Commerce with more than 30 attending, representing 19 houses. President John R. Halkyard was in the chair.

At the meeting of the Wrapping Division, with Vice-President John F. Blackman presiding, a study of salesmen's compensation, worked out by Floyd H. Blackman by making up a list of 25 typical imaginary transactions with the cost and selling price of the goods, was presented. Each merchant figures what one would pay his salesmen in connection with these items and presents his answer, but does not identify his paper. The association tabulates the replies for comparison and study. The association is sending out the problems and will study the answers at the next meeting April 1.

Members of the Fine Paper Division, with Vice-President John H. Brewer presiding, discussed current market conditions.

At the general meeting, the report of the treasurer showed a good balance in the treasury, with all dues paid to March 1 and all outstanding bills paid.

The speaker was Herbert N. McGill, president of the McGill Commodity Service, who gave a highly interesting talk, discussing "Which Way Are We Heading?" He gave as his personal opinion that business in the second quarter of the year would be slightly improved, the summer show a less than seasonal decline and that the last quarter would display a marked improvement, probably regaining about half the ground lost during the current recession.

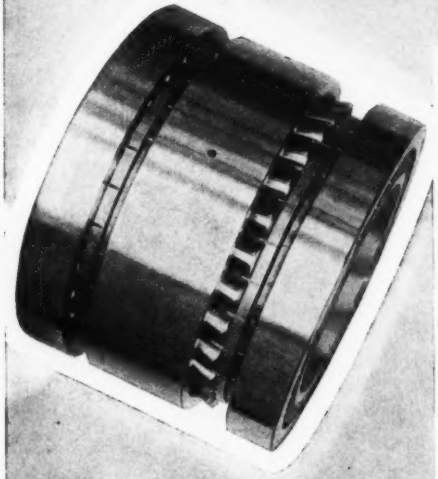
Pulpwood Traffic Gaining

MONTREAL, Que., March 28, 1938—For some reason hard to explain movement of pulpwood on the railways has been showing a sharp increase. The returns of the Dominion Bureau of Statistics show that for the year to March 12 last, Canadian railways loaded 33,666 cars of pulpwood. This contrasts with 22,274 cars to March 13, 1937, an increase of 11,392. The gain is even more striking when compared with the Jan. 1 to March 7 period of 1936, when only 15,124 cars were loaded.

The actual gain in pulpwood loadings this year is greater than for any other division and led all nine major divisions in cars loaded.

This improvement is even more striking compared with pulp and paper, as the two bear a very close relationship to each other. Up to March 12 this year 18,868 cars of pulp and paper were loaded, as against 28,686 cars for the corresponding period in 1937, a decline of 9,818 cars.

RECORDS PROVE *Quality*



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Since profits in the paper mill industry are largely dependent on continuous production, Bantam quality is being increasingly specified.

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Obituary

V. D. Simons

Venning Dodge Simons, 66 years old, well known consulting engineer of Chicago, died March 24th at Tucson, Arizona, where he had gone for the winter for his health.

Mr. Simons was born in Allegan, Mich., and gained his education from study and experience. His natural engineering ability and interest led him into the paper industry in Kalamazoo. In 1897 he became superintendent and manager of the public utility plant at Battle Creek. He went to Wisconsin Rapids in 1903 to take charge of the design and installation of electrical and hydraulic equipment for the new Consolidated Water Power and Paper Company mill. The first variable speed paper machine drive was installed at this mill under his direction. Three years later he became manager of the Biron plant of the Company. In 1912, he patented the sectional electric drive for paper machines which has since become an important feature of modern paper making. After participation in other engineering and construction projects on the West Coast and in Wisconsin, he opened an engineering office in Chicago in 1914 and has maintained it continuously since that time.

Mr. Simons was known throughout the industry as a consultant and his practice included the design and construction of many new pulp and paper mills and rehabilitation and enlargement of existing properties. The generation of steam electric power in connection with paper mills is a science brought to new levels of perfection under his guidance. He was the inventor of numerous processes used in the industry and at his death he was actively engaged in research on new and propressive ideas for the Paper Industry —subjects of never failing interest and almost fully absorbent of his energies. Mr. Simons was a Mason and a member of the Western Society of Engineers.

Funeral services were held in Chicago. He is survived by his widow, two daughters and three sons.

Mrs. Rebecca Garbovitsky Schweitzer

Mrs. Rebecca Garbovitsky Schweitzer, 57, of 270 West End Avenue, New York City, president of Peter J. Schweitzer, Inc., cigarette paper manufacturer and importer, March 21, died in Mount Sinai Hospital after an emergency operation.

A principal shareholder of the Jewish Colonial Trust Company of London, Mrs. Schweitzer had been head of the cigarette paper organization, with plant at 182 Cornelison avenue, Jersey City, since 1923, when her husband, Peter J. Schweitzer, died. She was also an organizer and first president of the Palestine Lighthouse for the Blind, and one of the founders of the Karen Hayesod Fund, an organization to raise money for rehabilitation in Palestine.

The Peter J. Schweitzer Memorial Hospital, in Palestine, was erected in 1930 by Mrs. Schweitzer.

She was president of the Home of the Daughters of Jacob, in the Bronx, from 1925 to 1937.

Two daughters and three sons survive.

David S. Walton Jr.

David S. Walton Jr., 65, formerly treasurer and director of the National Folding Box Company, New Haven, Conn., died of bronchitis March 18 at his home in New Haven. He had been an invalid for several years.

Mr. Walton was born in Beloit, Wis., the son of David S. Walton who had been in the paper business in New York for many years before founding the business in New Haven which later became the National Folding Box Company. Walton Jr. was graduated from Princeton in 1894 and had been a member of Squadron A and of the New York Athletic Club. He came to New Haven in 1900 and became treasurer and a member of the board of directors of the National Folding Box Company, of which his father was president.

Mr. Walton retired in 1930 on account of ill health. He was a member of the Church of the Redeemer, the Graduates and the Union League clubs and of Hiram Lodge, being a 32nd degree Mason.

Surviving are his widow, a daughter, two brothers and two sisters.

Milton R. Slocum

Milton R. Slocum, a retired paper mill superintendent, died March 14 at his home in Kokomo, Ind., of a cerebral hemorrhage.

Mr. Slocum was a native of Akron, O., and came to Kokomo to operate the Midwest Paper Company. Before that time he was superintendent of mills at Anderson and Tippecanoe City, O.

James B. Kennedy

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., March 28, 1938—James B. Kennedy, 76, a retired paper bag manufacturer, associated with a brother, Fred W. Kennedy, in the Kennedy Car Liner and Bag Company, largest industry at Shelbyville, Ind., died suddenly last week in his home following a stroke of apoplexy. He had been in impaired health five years. The widow, brother and two sisters survive. Funeral services were held Saturday.

Frank A. Leavens

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 28, 1938 — Frank A. Leavens, founder and president of F. A. Leavens & Co., dealers in paper mill supplies at Neenah, Wis., died Wednesday, March 23, at his home. He was 73 years old. Mr. Leavens founded the firm forty years ago and maintained offices in the Equitable Reserve building. Burial took place at Oak Hill Cemetery at Neenah.

Protectoid Grows Up

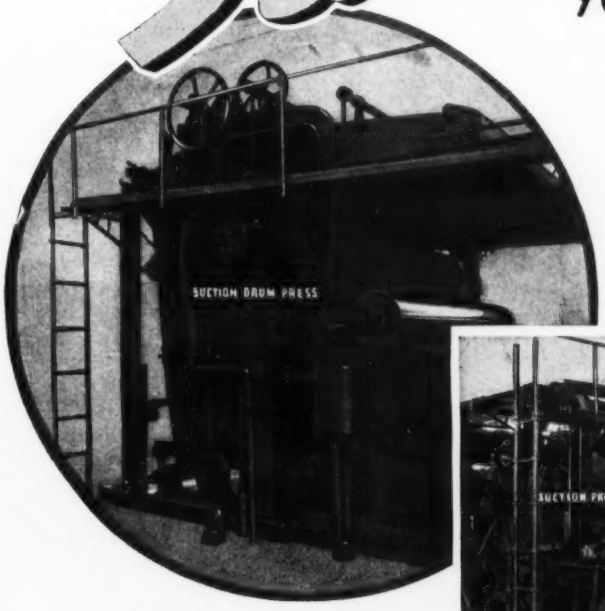
There was recently printed a notice to the effect that Celluloid Corporation's transparent packaging material Protectoid was to be known as Lumarith in the future. That notice was unfortunately worded and inadvertently released and has caused considerable confusion since Celluloid Corporation had no intention of dropping the name Protectoid.

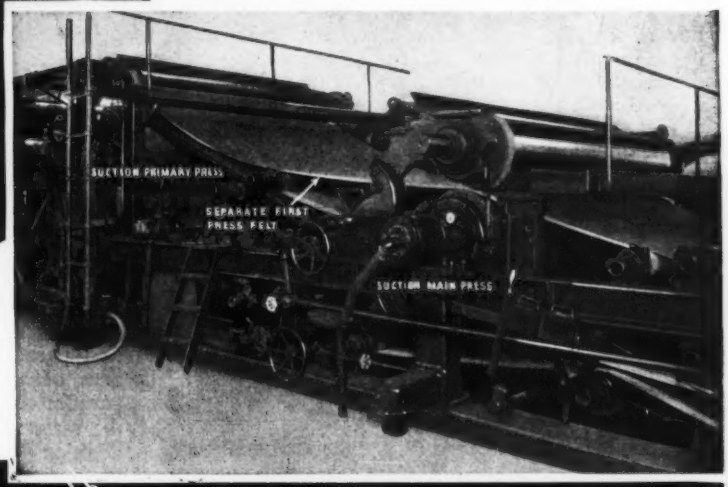
What had been intended was to confer on one particular member of the Protectoid family, namely, transparent packaging material, an additional hall mark of Celluloid quality—the widely known trade mark Lumarith, so that this product will in the future be known as Lumarith Protectoid.

Suctionize

YOUR BOARD MACHINE WITH Beloit SUCTION

DRUM PRESS *
PRIMARY PRESS
MAIN PRESS





Note the short top felt for suction drum press nip. All plain primaries have been removed.

Wet pickup felt returns after suction primary press. Suction first press is on separate felt.

1. Removes large quantity water without disturbing formation or finish.
2. Reduces crushing and checking.
3. Improves finish. Reduces felt marks.
4. Permits use of light weight short top felt. Lower felt cost.
5. Eliminates several nips. Improves test of board.
6. Permits more bulk if desired.
7. Increases test or permits cheaper furnish and maintain same test.
8. Suction main press more efficient on separate felt.

* Suction drum press is equivalent to suction drum and suction primary press.

BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

THE BELOIT WAY IS THE MODERN WAY

BELOIT IRON WORKS, BELOIT, WIS.

CASTANEA PAPER CO. WINS IN APPEALS COURT

(Continued from page 13)

ent and the other patents in suit in the case at bar, a brief description of the usual method or system employed in manufacturing paper is necessary. Accordingly, we state that wood pulp, with filler, sizing and other materials, is placed in a beater or Hollander wherein these materials with water are beaten by knives and bars into a homogeneous mass. From the beater the stock is drawn off into a beater chest, really a storage tank, and thence it is pumped continuously to a jordan, where the fiber of the stock is further reduced; thence it goes into another storage tank, which is called the machine chest. From the machine chest the paper stock is passed into a mixing box. In the mixing box the stock receives further large dilution by water. From the mixing box the stock moves through rifflers to screens, which remove over-sized particles and impurities, and thence flows to the head box. Thence the mix is passed onto an endless belt of fine mesh wire, called the *machine* or *making* wire, which moves upon rollers in the direction of the flow of the mix. As the water flows off and the making wire rolls on, there is left upon the making wire the substance of the mix, a web or material which, when dried and pressed by driers and calenders, is in fact paper.

The appellee's process is described by the learned trial judge in his fourteenth finding of fact as follows: "In the defendant's process, ordinary straight calcium carbonate is used and added to the sized paper stock at the inlet to the machine chest. The paper stock in the machine chest to which the carbonate filler is added is in thick or concentrated form. The stock containing carbonate filler remains in the machine chest for at least two hours."

It is obvious from this finding, if it be supported by sufficient evidence, that the eighth claim of the patent is not infringed, since at the point where the appellee adds the carbonate filler, the fiber or stock is not in a condition to be passed onto the web-forming device of the paper machine. The stock does not reach such condition until it comes into the mixing box and receives therein substantial dilution by water. An examination of the testimony convinces us that this finding of the court below is fully supported by the evidence and we therefore concur in the ruling of the court below that the eighth claim of the "minimizing" patent is not infringed.

Is the first claim of the patent infringed by the appellee's procedure? It is obvious that by adding the carbonate filler at the machine chest, the appellee has put it into the paper making system at a later place, therefore later in point of time than if the carbonate had been added at the jordan, the beater chest or the beater. Can this be an infringement of the minimizing process of the appellant as referred to in claim 1? In the claim, time of contact between the antagonistic materials is solely referred to. The claim refers to "previously sized fiber". No other condition is imposed. The word minimize means "to reduce to the smallest part or proportion possible," "to reduce to the smallest possible amount or degree."[2] To minimize time of contact means to reduce the time of contact to the smallest possible proportion. As stated in the fourteenth finding of fact, in the appellee's procedure the stock containing carbonate filler remains in the machine chest for at least two hours. It is obvious that this procedure does not favor the reduction of the time of contact between the carbonate filler and the previously sized fiber to the smallest possible degree. In so holding, we concur in the ruling of the trial court, which is substantially to the same effect.

We are not unmindful of the decisions of this court in Ryder v. Schlichter, 126 F. 487, 491, and Boyer v. Keller Tool Company, 127 F. 130. In the case at bar, however, to put upon the first claim of the patent the interpretation contended for by the appellant is to confer upon the word, minimize, a meaning unknown to our language.

We deem it unnecessary to discuss whether or not the patent is invalid over the prior art and whether or not the paper manufactured by the appellee is sized within the meaning of the patent.

As to the Paraffin Patents, No. 1,819,44: and No. 1,848,659

We will endeavor to discuss these two patents and their respective disclosures under the same heading.

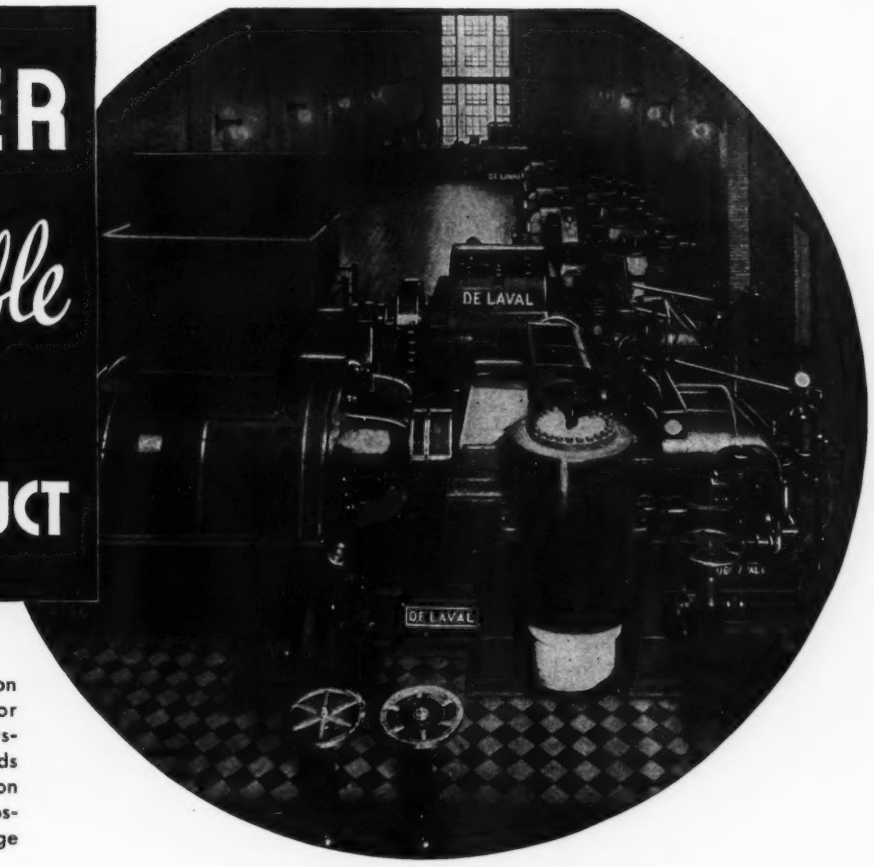
The first paraffin patent, No. 1,819,441, was issued upon August 18, 1931, upon an application filed March 15, 1928. The second paraffin patent, No. 1,848,659, was issued upon March 8, 1932, upon an application filed April 8, 1929.

As we have stated in discussing the minimizing patent, a rosin sizing precipitated by alum is acid, and carbonate filler is alkali. Being thus antagonistic, each works to the disintegration of the other. The first paraffin patent lays emphasis upon the avoidance of the use of rosin and substitutes therefor paraffin emulsion as the sizing agent to be used in the manufacture of paper. The preferred order of addition of materials disclosed by the patent is to put the paraffin with the carbonate into the beater with the fibrous pulp and then add alum, or alum and starch. The heart of Rafton's disclosure is set forth in the patent in the following language: "I have discovered that a paraffin emulsion and an aqueous suspension of carbonate filler mutually flocculate one another and that this 'flocculate' or 'complex' of paraffin and carbonate filler does not partake of the nature of discrete particles of paraffin, . . . and has no tendency to ball up and agglomerate as do unattached discrete particles of paraffin released from the emulsified condition . . . ". As the word "flocculate" is here used we think it indicates a coalescence or adherence between the particles of paraffin and the carbonate filler. As an example of the method of practicing this invention, Rafton states in the patent: "I may place the fibrous pulp in the beater . . . , then add the paraffin emulsion, . . . incorporate this thoroughly with the pulp, then add the carbonate filler, then starch if desired and/or alum . . . "

In our opinion it is obvious that the flocculation referred to and the creation of the flocculate or complex between the paraffin emulsion and the carbonate filler must take place prior to the addition of alum since the addition of alum necessarily would serve immediately to precipitate upon the paper stock the

[2] Webster's International Dictionary; Funk & Wagnalls Standard Dictionary.

POWER AS A *Profitable* BY-PRODUCT



RAISING the pressure on steam generated for ultimate use in heating systems and processes adds very little to its cost, but, on the other hand, makes possible the generation of large amounts of power in

DE LAVAL TURBINES

THE illustration shows a De Laval equipped central heating station in which are installed the following De Laval Generating Units and Auxiliaries:

The turbine in the foreground drives a 3000 kw. alternator and comprises two parts, one a pressure stage turbine exhausting to the feed water heater and the other a single stage turbine exhausting to the heating system against pressures ranging up to 120 lb. per sq. in.

The following unit, consisting of a De Laval geared turbine driving a 2400 kw. D. C. generator, exhausts at pressures varying from 10 ins. vacuum to 5 lb. gage, according to the heat balance requirements of the station.

Next there are three De Laval turbine driven boiler feed pumps, two of 1500 gal. per min. each and one of 750 gal. per min. capacity against 225 lb. per sq. in., and a D. C. motor driven pump of the same capacity.

At the far end of the room is a second 2400 kw. De Laval geared D. C. unit recently installed.

The requirements of an individual plant or process can often be met most advantageously by a special design of turbine or of governing arrangements, as in the plant above described.

•

If you will supply information concerning your steam and power demands, our engineers will suggest the most economical and practical solution and will prepare performance figures by means of which you can estimate the economies which can be effected.

3504

DE LAVAL STEAM TURBINE CO. · TRENTON, N. J.

Manufacturers of Steam Turbines, Centrifugal Pumps, Propeller Pumps, Rotary Displacement Pumps, Centrifugal Blowers and Compressors, Worm Gears, Helical Speed Reducing Gears, Hydraulic Turbines and Flexible Couplings. Sole Licensee of the Bauer-Wach Exhaust Turbine System.

paraffin emulsion and the carbonate. Therefore, whatever might be the order of addition of materials in the process prior to the addition of alum, it is obvious that alum must be last added to the mix and added after the flocculation has taken place. In the appellee's procedure, however, and we describe it in the terms expressed upon the appellant's brief, the paraffin is put with the paper stock in the beater with rosin and alum and the carbonate is not added until the mix arrives at the machine chest. It is apparent therefore that in the appellee's procedure the paraffin emulsion has been thrown down upon the paper stock prior to its coming to the machine chest. In view of the foregoing, it is entirely clear that there is no infringement of the first paraffin patent by the procedure of the appellee. Furthermore, as we have stated, the patent lays emphasis upon the avoidance of rosin. The appellee uses substantial quantities of rosin in its procedure. For example, Baker, the manager of the Paper Research of the appellee, testified that the proportion of paraffin to rosin used by the appellee in furnishes MX27 and MX37 was in the ratio of 16 per cent. to 84 per cent. of rosin.

In view of the foregoing, we concur in the ruling of the learned district judge as expressed by him in his opinion, as follows: "Our conclusion is that the defendant's procedure does not infringe this patent, because it uses a rosin size with a small proportion of paraffin, which size is precipitated by alum in the paper stock in the beater. The carbonate filler is not added until the paper stock with the already precipitated size arrives at the machine chest."

In the second paraffin patent, alleged to be a modification of and an improvement upon the first, Rafton claims the use of a "saponaceous paraffin emulsion which may be precipitated in the beater by . . . alum." Rosin is prescribed as the emulsifying agent for the paraffin. Rafton states in the patent: "I have also discovered a modification of that process (the procedure of the first paraffin patent) wherein a breakable paraffin emulsion, such for instance as a saponaceous paraffin emulsion . . . is thrown down—i.e. broken—by the action of . . . alum instead of by carbonate filler." Briefly stated, therefore, in the second paraffin patent Rafton sets out a method whereby the paraffin emulsion first is precipitated by alum.

The patent then states: "I have found that the precipitate produced by . . . alum with a breakable paraffin emulsion . . . may be used in sizing paper filled with carbonate filler as the precipitate is affected only very slowly by the action of carbonate filler, in fact so slowly that in the lengths of time ordinarily employed, it is not ordinarily affected thereby sufficiently to interfere with its practical use,"[3] The preferred practice of the patent is stated to be as follows: "I add to the fibrous material in the beater . . . a suitable amount of breakable paraffin emulsion . . . , allow a sufficient time for mixing, and then add a quantity of alum, at least sufficient to completely throw down the said emulsion, . . . I then add carbonate filler."

We deem it to be abundantly clear that the second paraffin patent directs itself to the manufacture of a carbonate filled paper, sized with a paraffin emulsion precipitated by alum before the addition of the carbonate. The appellee contends that this procedure is precisely that referred to as part of the prior art in the first paraffin patent, but we can find no words in the first patent which bear out such a construction.

The appellee contends that the use of wax-like emulsions precipitated by metallic salts is ancient in the art, and that waxes precipitated by alum have been used for the manufacture of book paper filled with carbonate for a very considerable length of time. It cites Dreher's British Patent No. 12,668 of 1900 and DeCew's British Patent No. 13,588 of 1915, as showing processes for the emulsifying of paraffin by rosin and thereafter saponifying it. These contentions are supported fully by the evidence.

The Miles' United States Patent No. 1,228,580, issued June 5, 1917, refers to the use of filling materials such as "china clay, blanc-fixe, satin white, or any of the finely comminuted mineral fillers which are habitually incorporated in the paper . . . ". Carbonates, such as calcium carbonate, must be deemed to be within the definition of the Miles' patent of finely comminuted mineral fillers. Satin white was held by the court below to be chemically the full equivalent of calcium carbonate.

We cannot hold that the time or point in the paper making system when or where alum is added to be a matter of importance. The prior art discloses its addition both early and late in the manufacture of paper. The use of calcium carbonate as filler is old in the art of manufacturing paper. The use of paraffin, the process of its emulsification by rosin or other substances, for use as sizing of paper, is also old.

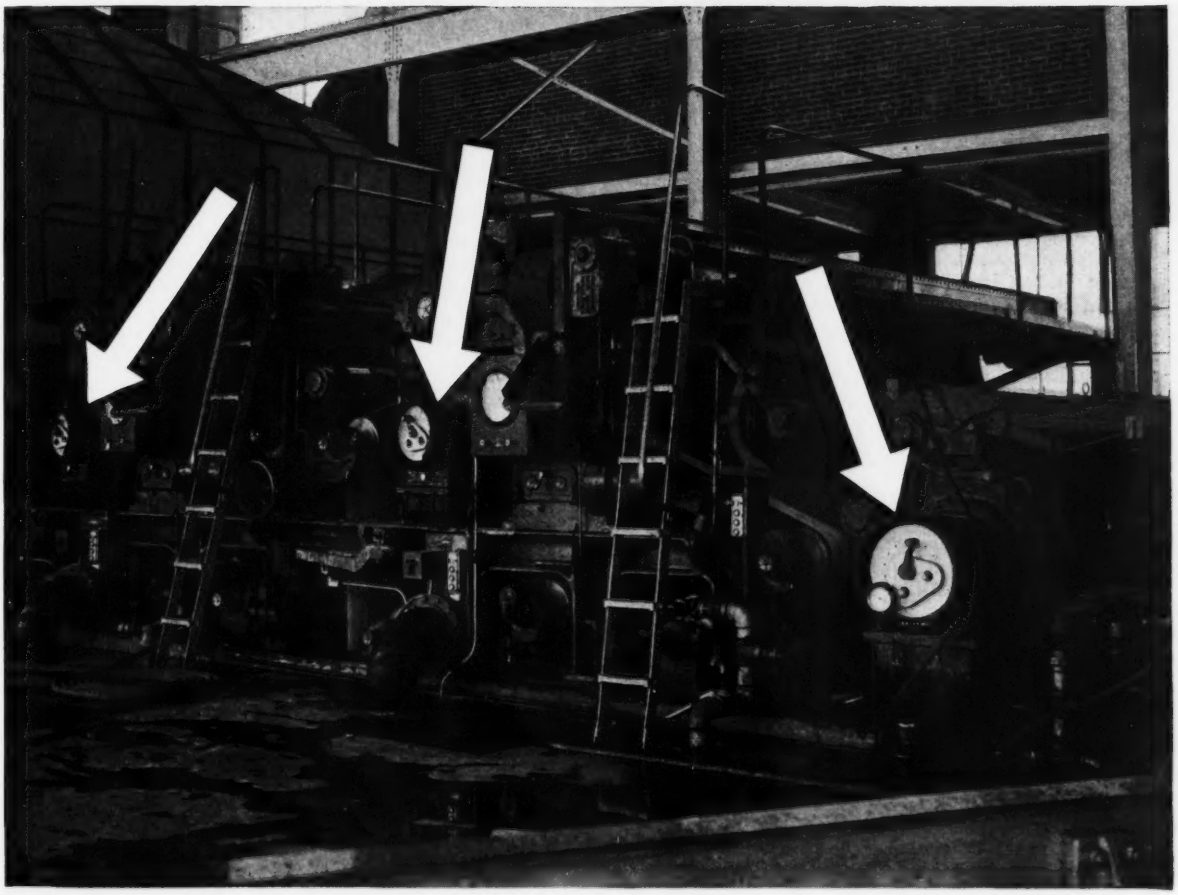
As stated by the trial judge in his twenty-eighth finding of fact: "The substitution of calcium carbonate for other fillers in a process in which paraffin emulsion is used is the substitution of an equivalent and was within the skill of the paper manufacturer." With this finding we are in accord and the evidence supports it beyond any reasonable doubt. The rulings of this court in Yablic v. Protecto, etc. Corporation, 21 F. (2nd) 885, 887, and Allen Filter Co. v. Star, etc. Co., 40 F. (2nd) 252, are not applicable to the facts of the case at bar. In addition those facts fully support the sixteenth and seventeenth findings of fact of the trial court.[4] In our opinion the monopoly should not be sustained when there has been a mere substitution of material except under/circumstances of great rarity. Hotchkiss v. Greenwood, 11 How. 248, 13 L. Ed. 683; Brown v. District of Columbia, 130 U. S. 87; American Acetylene Burner Co. v. Kirchberger, 142 F. 745, affirmed 147 F. 253. As was stated by Judge Cox in Union Hardware Co. v. Selchow, 112 F. 1006: "Where the inventor has discovered new and unknown properties residing in a given material, or that a long sought for result, which has baffled an army of skilled artisans, can be achieved by the change, in such cases the sub-

[3] This language of the second paraffin patent denies a major principle of the first, in that it sets forth the identical method stated by the first paraffin patent as being used in the prior art, but which creates lumps and flakes of paraffin.

[4] "16. It was well known in the art that a greater degree of sizing could be obtained with paraffin emulsions than with the commonly employed rosin sizes, and prior to 1925, paraffin emulsions had been used in the production of highly sized papers.

17. Prior to 1926 paraffin emulsions were only available in relatively dilute form, which rendered their cost of shipments expensive. In 1925 methods were developed which permitted the preparation of paraffin emulsion in a more concentrated form. In 1926 such emulsions became commercially available, and from that time have found substantial and increasing application in the paper industry."

DOWNINGTOWN



Chesapeake-Camp Corp.

Franklin, Virginia

SUCTION COUCH ROLL

•

SUCTION FIRST PRESS

•

SUCTION SECOND PRESS

Three 212" Downingtown Suction Rolls were chosen for this new, modern kraft fourdrinier. The 36" Suction Couch is Cantilever, of course, and the two 34" Suction Presses are Rubber Covered with holes drilled in the Downingtown Patented Spiral Arrangement. Send for our Catalogs Nos. 117-118, which completely describe the construction and advantages of Downingtown Suction Couch, Suction Press, Suction Felt and Suction Drum Press Rolls. The Downingtown Mfg. Co., Downingtown, Pa.

OLDEST MANUFACTURERS OF MODERN SUCTION ROLLS

stitution of one material for another may reach the plane of invention. But substitution alone, unaccompanied by any actual advance in the art or genuine benefit to the public, has uniformly been held insufficient to support a patent." The rule enunciated by Judge Cox in the cited case was referred to with approval by Judge Woolley in Low v. McMaster, 266 F. 518, 520. In our opinion there is nothing in the record in the case at bar which indicates that the procedure outlined in the second paraffin patent should be deemed to be within the announced exceptions to the rule of substituted equivalents.

For the reasons given we deem the second paraffin patent to be invalid.

As to the Starch Patent No. 1,831,928

In this patent Rafton states: "I am well aware that starch has been used in paper making for a great many years, notably as a sizing agent or assistant, for hardening paper, for increasing retention or the like, but it will be noted that my use of starch is wholly different, as I use starch for none of these purposes but rather as a foam affecting agent." He states that a simple method of practicing his invention " . . . is to introduce the fibrous materials, the filler of the type referred to, together with the starch or starch and alum into the beater, . . . This furnish is then given the usual treatment, and run off on the paper machine in the regular manner. My invention, however, is not confined to this particular method, as it also includes the addition of starch or starch and alum to one or more of the other ingredients of the furnish at any other convenient point either before or during the paper manufacturing process, and moreover it comprehends any order of the mixing of the starch or the starch and alum and one or more of the other ingredients, although of course, where starch and alum are both used, they need not necessarily be added at the same time or point. Moreover, it embraces the addition of starch or starch and alum to one or more of the other ingredients by steps or stages if desired, instead of by the addition of the entire amount of the starch or the starch and the alum at one time, and of course, here, as above, where starch and alum are both used, they need not necessarily be added at the same time or point." Rafton urges that he has found a new use for starch, the use of employing it to kill foam, which in his opinion excessively is engendered by the use of carbonate fillers.

Without detailing the prior art, there can be no doubt that starch has been used as a sizing agent or adjuvant almost from the dawn of paper making. The prior art discloses, as stated in the thirty-sixth finding of fact, that the amount of starch so used ranged between 1 per cent. and 6 per cent. of the weight of the paper. The amount of starch to be used, as disclosed in Rafton's starch patent, ranges between 1.9 per cent. and 4.2 per cent. We therefore must conclude that so far as the application of any principle of quantity is concerned Rafton indicates no change over the prior art. Furthermore, we can find no element of invention in the patent in so far as the point of addition of the starch to the paper stock is concerned. Rafton states simply that the starch may be put into the beater or " . . . at any other convenient point either before or during the paper manufacturing process, . . .". It is abundantly clear from the record that wherever it be added within the whole range of the paper making system, from the beater to the making or machine wire, its effect is always the same.

What Rafton claims is in fact a patent on a new purpose involving the discovery of a reason for an effect which, if it be as claimed, must have been observable by the prior art. As was correctly held by the learned district judge, this is not patentable. General Electric Company v. Cooper-Hewitt Electric Company, 249, F. 69; National Meter Company v. Neptune Meter Company, 122 F. 82; affirmed 129 F. 124; Kissock v. Duquesne Company, 37 F. (2nd) 249; Dorlan v. Guie, 25 F. 816; In re Kemper, Case No. 7687, 14 F. Cases 286. No additional authorities need be cited.

In our opinion this patent is invalid for the reasons stated. Moreover, as stated by the court below, there is nothing to indicate from the evidence that the appellee's process of manufacture of paper created or tends to create any foam problem incapable of being disposed of by the ordinary foam equipment with which paper making systems are furnished. The thirty-seventh finding of fact of the trial court is amply supported by the evidence.[5] In our opinion, even if valid, the patent is not infringed.

Accordingly, the decree of the court below will be affirmed.

No Duty On Machinery for Peru Mill

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 30, 1938—A governmental decree providing for the free importation of machinery and materials to be used in the construction of a paper factory in Peru was recently made public in that country, according to a report to the Department of Commerce by the office of the American Commercial Attache at Lima. The duty free entry was granted by the Peruvian Government in order to encourage and support the establishment of a new industry in Peru which will use native Peruvian products as raw materials, the report stated.

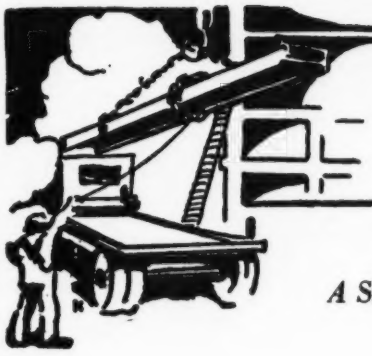
Studies are being made in that country with the purpose of eventually producing all kinds of paper, with the exception of newsprint. Bagasse of sugar cane will be the principal base of the paper to be manufactured. It was understood that besides bagasse, other products such as cotton waste, stalks, and many vegetable fibers which are found in Peru will be utilized as prime materials in the manufacture of the paper.

Actual production was not expected to begin until 1940, according to the report.

To Handle Audubon Line

BOSTON, Mass., March 28, 1938—Knight, Allen & Clark, Inc., is handling the Audubon line of papers, made by the Hurlbut Paper Company, South Lee, Mass., stocking all items, with envelopes.

[5] "37. Defendant used starch and alum at a time when it was using only clay filler in its paper. The starch was used to strengthen its sheet and to make it possible to use more filler; the alum was used to precipitate the size. When the defendant substituted some carbonate filler for part of the clay filler, the use of starch and alum was continued in the same manner as theretofore, the same filler starch ratio being used."



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Financing and Operation of Pulp and Paper Mills

General Construction News

College Grove, Tenn.—Anderson Brothers, Nashville, Tenn., manufacturer of insulating board products, have leased a one-story industrial building at College Grove, formerly occupied by the College Grove Cannery Corporation, and will remodel and equip for new plant. It is proposed to have structure ready for operations at early date. It will be operated under the name of the Southern Insulation Company.

Boston, Mass.—The Allied Container Corporation, recently chartered with capital of $50,000, to manufacture corrugated and other paper containers and boxes, will take over and succeed to the company of same name, with local plant at 1715 Hyde Park avenue. New company is headed by Nathan Schwartz, president; and Samuel Segal, treasurer.

Newark, N. J.—The Paraffine Companies, Inc., 475 Brannan street, San Francisco, Cal., manufacturer of building papers, wrappers and tube chip, etc., with main mill at Emeryville, Cal., has arranged for lease of space at Newark Tidewater Terminals, Inc., Port Newark, comprising about 112,000 square feet in Building No. 4, and will occupy for new Eastern factory branch, storage and distributing plant. It is proposed to take possession at early date and install necessary equipment.

Green Bay, Wis.—The Northern Paper Mills, Inc., manufacturer of tissue and other paper stocks, is making additional awards for equipment for new steam-operated electric power plant, recently referred to in these columns, placing orders with the Hoppes Manufacturing Company, Springfield, Ohio, for feedwater heater and accessories, and with the Buffalo Forge Company, Buffalo, N. Y., for mechanical draft fans. Contracts for other station equipment are scheduled to be made at early date. The new plant is estimated to cost approximately $750,000, and will replace hydroelectric generating stations formerly operated by the company and recently sold to the Wisconsin-Michigan Power Company, Appleton, Wis. Sargent & Lundy, Inc., 104 South Deadborn street, Chicago, Ill., is consulting engineer.

New York, N. Y.—The Johns-Manville Corporation, 22 East 40th street, manufacturer of roofing products, fiber specialties and other building materials, will expend about $3,300,000 for expansion and improvements in plants in different parts of the country during 1938, the fund having been made available for such work in 1937, in connection with a larger appropriation, but not used during that period. Considerable increase in production facilities will be provided at different mills.

Wilkes-Barre, Pa.—Fire recently damaged a portion of storage and distributing building of the Union Supply & Paper Company, East Northhampton street. An official estimate of loss has not been announced. The damage will be replaced.

Eau Claire, Mich.—Modern Pac, Inc., lately organized to manufacture corrugated fiber board fruit packages of new type, as previously noted in these columns, is completing construction of new local plant and will begin operations at early date, giving employment to a sizable working force. New plant is said to represent an investment of close to $40,000, with equipment. New company is headed by C. H. Richard and F. A. Bowerman, both of Eau Claire, who will be in charge of operations at plant.

Paterson, N. J.—Fire recently damaged a portion of the two-story storage and distributing building of the American Paper Stock Company, 217 North First street, with loss estimated at close to $20,000. Plans are said to be under consideration for early rebuilding. Company is headed by Anthony Cava and Joseph Garone.

Chicago, Ill.—The General Calendar Company, organized to manufacture paper specialties, has leased a floor in the local Heywood-Wakefield Building, 2653 West Arthington avenue, totaling about 10,000 square feet, and will equip and occupy at once for new paper-converting plant. It is expected to begin operations at early date.

Hamburg, N. J.—Fire recently destroyed a one-story building formerly used by the Hamburg Waxed and Tissue Paper Company. An official estimate of loss has not been announced.

New Companies

New York, N. Y.—The Kuenstner Paper Company, Inc., has been incorporated with capital of 200 shares of stock, no par value, to deal in paper products of various kinds. New company is represented by Ridgway, Ridgway & Slote, 41 Park row, New York, attorneys.

New York, N. Y.—The Ecusta Paper Corporation, care of Corporation Trust Company, 120 Broadway, New York, has been incorporated under Delaware laws with capital of $1,500,000, to manufacture and deal in pulp and paper products. The incorporators include Eben C. Gould, Glen Ridge, N. J.; John A. Sherman and Jean L. Conrad, both of New York.

PAPER TRADE JOURNAL
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Vol. CVI New York, March 31, 1938 No. 13

COMING EVENTS IN THE PAPER INDUSTRY

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry— Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILLS SUPERINTENDENTS ASSOCIATION, Annual meeting, Royal York Hotel, Toronto, Ont., June 22-24.

O'MAHONEY-BORAH LICENSING BILL

The O'Mahoney-Borah Licensing Bill is opposed by industry and trade because it is a step in the wrong direction — a step which clearly leads to an attempt of the Federal Government to impose more restriction on, interfere with and further control all business enterprises from Washington. As this bill would delegate to the Federal Trade Commission unprecedented broad dictatorial powers, all business men should vigorously protest its enactment.

After a thorough study of the O'Mahoney-Borah Bill by the Industrial Committee of the Merchant's Association of New York, the Association filed with all members of the Judiciary Committee a brief in opposition, with the understanding that both the brief and a letter to Senator O'Mahoney which accompanied it, would be made a part of the records of the hearing. The bill is expected to be reported but that the Senate will not act upon it at this session.

In setting forth its objections the Merchants' Association said in part: "The revised O'Mahoney-Borah Bill as set forth in the February 19, 1938, committee Print of S. 3072 and in the February 21, 1938, Mead Bill (H. R. 8589) should be opposed, because it vests in the Federal Trade Commission dictatorial power of the most dramatic and far reaching character over every essential feature of the entire economic life of the United States."

The principal objections to this bill mentioned in the statement of the Board of Directors of the Merchants' Association of New York is summarized as follows: "Although the bill purports to apply to corporations having gross assets of more than $100,000, the conditions imposed would extend its scope to corporations having gross assets of less than $100,000. The jurisdiction of the Federal Trade Commission would extend beyond the limits of monopoly, restraint of trade, unfair or deceptive practices and would establish dictatorial powers over production, processing and distribution.

"The bill would furnish the Commission with authority to revoke licenses without court trial. The corporate requirements imposed would seriously and adversely affect the status of existing corporations. Those prohibiting a corporation from holding the stock of other corporations and preventing officers and directors from being stockholders or employees of other corporations in the same business, are regarded as particularly drastic.

"The requirement that a certificate be filed by the applicant for a license, stating that the corporation 'intends to engage in commerce subject to all Acts of Congress regulating such commerce' would prevent it from asserting in the future its constitutional rights against provisions of the bill."

Among those who wrote the Association commenting on its objections of the O'Mahoney-Borah Bill were Senator William H. King of Utah and Senator James H. Hughes of Delaware. Senator King said in part: "I am opposed to this bill believing that it would prove detrimental to business and to the country, if it were enacted into law, and therefore shall vote against it." Senator Hughes said in part: "This matter affects my state greatly and I am doing everything possible to see that it is defeated."

In addition to the objections cited, many opinions indicating opposition to the bill have been received by the Merchants' Association, a few of which follow: "The bill would result in centralized control of business, with practically unlimited authority vested in a Government body to exercise life and death powers over business.

"A vast bureaucracy would be set up for administering the proposed law and for checking the activities of business, which would be very extensive and would probably cost $50,000,000 annually soon after the bill became effective.

"The bill employs and extends the anti-American principle involved in the policeman-prosecutor-judge combination, which is the antithesis of Anglo-Saxon conception of justice.

"Business is still in a state of depression and begs for relief from unnecessary Government interfer-

ence. Anxiety and uncertainty are caused by the requirements of the proposed law, many of which are not only new and experimental in principle, but involve more and more dictatorial power and regulate the existence of an ever growing circle of individuals and activities.

"The reasons for the proposed law given in Section 1 of the bill do not justify the revolutionary nature of this legislation. For example, one of these reasons is 'commerce with foreign nations.' This type of activity is at best only a small portion of the nation's business. The apprehension which the proposed bill is causing among people in both large and small businesses can scarcely be exaggerated."

To Appear at Canadian Trade Hearing

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 30, 1938—Representatives of the paper and pulp industry will appear on April 4 before the Committee for Reciprocity Information in connection with the new trade agreement with Canada. Those who are slated to make an appearance, according to the calendar of the Committee, include D. C. Everest, Marathon Paper Mills Company, Rothschild, Wis.; George Olmstead, Jr., S. D. Warren Company, Boston, Mass.; R. E. Canfield, New York, N. Y.; S. B. Copeland, Colquet, Minn.; W. H. Kenety, Colquet, Minn.; A. Alfred Wagner, Stevens & Thompson, New York, N. Y.; Z. W. Ranck, Crystal Tissue Company, Middletown, Ohio; Joseph M. Conway, Hobert Paper Mills, Inc., Green Bay, Wis.; E. W. Kiefer, Port Huron Sulphite and Paper Company, Port Huron, Mich.; and C. G. Parker, Kimberly-Clark Corporation, Neenah, Wis.

Representative John Luecke of Michigan, in making an argument before the Committee, among other things will discuss woodpulp.

Heads Behr-Manning Corp.

TROY, N. Y., March 28, 1938—A meeting of the board of directors of the Behr-Manning Corporation was held last week at which Francis E. Gallagher was chosen president to succeed the late John A. Manning, who died recently. Mr. Gallagher was previously vice president and general manager and he will continue also in the latter capacity. Mr. Gallagher also holds a directorship and vice presidency of the John A. Manning Paper Company, with branches in this city and Green Island. He became connected with the Behr-Manning Company in 1913 following his graduation from Cornell University.

James F. Adams has been elected head of the John A. Manning Paper Company, of this city, to fill the vacancy caused by the death of Mr. Manning and he will also continue as general manager. William H. Manning Jr., of Troy, nephew of the late president, has been elected a director after having served as a department head for several years. He is a graduate of Princeton University. Mr. Adams was formerly connected with the Aluminum Company of America and later as a research engineer with the Behr-Manning Corporation. He was made vice president in 1930.

Production Ratio Report

(These statistics are based upon paper production reports to the American Paper and Pulp Association.)

COMPARATIVE MONTHLY SUMMARIES

Months	1938(c)	1937(c)	1936	1935	1934
January	63.9%	90.3%	76.1%	65.8%	.....
February	68.8%	90.1%	77.9%	70.0%	.....
March	.....	90.3%	76.0%	70.5%	.....
April	.....	92.1%	82.3%	70.0%	.....
May	.....	90.6%	81.6%	69.4%	.....
June	.....	87.3%	80.7%	72.3%	.....
July	.....	81.8%	77.3%	64.9%	.....
August	.....	82.9%	81.5%	70.9%	.....
September	.....	78.6%	80.5%	71.9%	58.2%
October	.....	73.5%	87.6%	75.6%	64.7%
November	.....	61.9%	88.0%	75.3%	61.7%
December	.....	54.5%	85.9%	71.2%	59.6%
Year Average	.....	80.6%	81.3%	70.5%	.....
Year to Date First 11 weeks	67.1%	90.2%	76.8%	68.0%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1938		CORRESPONDING WEEKS, 1937	
*February 12	67.9%	February 13	90.2%
*February 19	68.7%	February 20	90.4%
*February 26	71.6%	February 27	91.6%
*March 5	69.1%	March 6	89.2%
*March 12	71.1%	March 13	90.6%
*March 19	67.6%	March 20	90.7%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks					
Ratio Limits	Feb. 12, 1938	Feb. 19, 1938	Feb. 26, 1938	Mar. 5, 1938	Mar. 12, 1938	Mar. 19, 1938
0% to 50%	109	91	97	92	77	72
51% to 100%	201	210	205	198	210	146
Total Mills Reporting	310	301	302	290	287	218

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported by individual companies.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours", were as follows:

Mos.	1938 (e)	1937 (e)	1936	1935	Mos.	1938 (e)	1937 (e)	1936	1935
Jan.	55%	80%	61%	61%	July	....	67%	69%	59%
Feb.	61%	86%	67%	67%	Aug.	....	74%	75%	65%
Mar.	....	87%	68%	67%	Sept.	....	70%	76%	69%
Apr.	....	89%	70%	61%	Oct.	....	66%	82%	76%
May	....	86%	68%	61%	Nov.	....	56%	79%	70%
June	....	75%	68%	65%	Dec.	....	46%	74%	60%

Week end. Feb. 12, 1938—60%
Week end. Feb. 19, 1938—60%
Week end. Feb. 26, 1938—61%
Week end. Mar. 5, 1938—59%
Week end. Mar. 12, 1938—61%
Week end. Mar. 19, 1938—60%

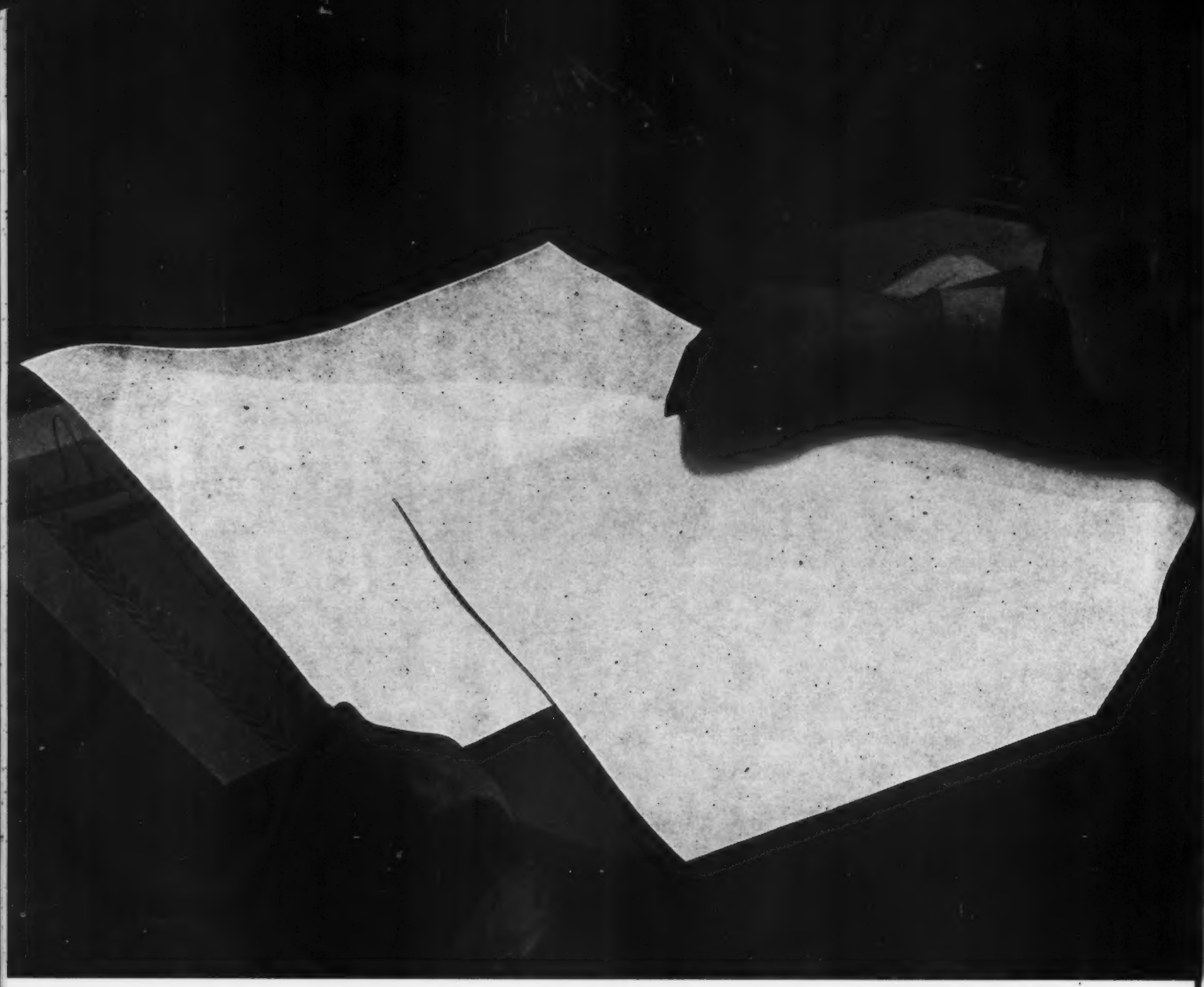
(e) Basic figures revised to include new members of the National Paperboard Assn.

British Capital for British Columbia

VANCOUVER, B. C., March 19, 1938—British capital is ready to invest in British Columbia industry on a large scale as soon as markets become more settled, reports A. E. McMaster, managing director of Nootka Wood Products Ltd., who has returned to Vancouver, B. C., from a business trip to England in the interests of his company.

Mr. McMaster says that adequate financing has been obtained in England for making the necessary extensions to the company's sawmill at Port Tasis, on the west coast of Vancouver Island, so as to make it a completely equipped lumber producing unit.

Real progress was made by Mr. McMaster in negotiations for establishment of a rayon pulp mill, backed by British capital. The money for this project, says Mr. McMaster, will be available as soon as pulp and other markets show improvement. The enterprise will represent one of the biggest industrial investments that British interests have made in this province in twenty years.



Better Color Is Always in Demand

And many manufacturers are enjoying greater sales by meeting the demand with papers made whiter with Zinc Sulphide Pigments. Papers that are more opaque, too, with less "show through" to tire the eye or divert the mind.

Several types of such papers are being featured by progressive dealers. And all the types are identified by this improved color which bespeaks quality and which makes them attractive to the consumer.

Through the wide range of Cryptone and Albalith Zinc Sulphide Pigments, the paper manufacturer is offered a convenient means of producing these new papers of better color and opacity.

If such characteristics are of interest in your market, we shall appreciate an opportunity to discuss your problem with you. Our Research Department is the largest in the world devoted to the development and application of white pigments.

THE NEW JERSEY ZINC COMPANY
160 FRONT ST., NEW YORK

ZINC SULPHIDE PIGMENTS IN PAPER

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Review Of The Paper Industry Literature

Abstracts Compiled By the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson and Clarence J. West, Chairman of the Committee.

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C. for 10 cents each. Send currency, not stamps.

Board

The Use of Colloidal Graphite in the Manufacture of Corrugated Fibreboard. Fibre Containers 22, no. 8: 68, 70 (August, 1937); B.I.P.C. 8: 48.—Reference is made to the possibilities of applying colloidal graphite to pre-heaters, hot plates, and other metal surfaces of machines over which the fiberboard passes during the course of its formation, resulting in reduced friction between the board and the plates, minimized adhesion of silicate, elimination of sticking of corrugating medium to corrugating rolls, etc. The graphite causes no discoloration of the board passing over it and does not interfere with the heat transfer. —C.J.W.

Insulating Board. Wochbl. Papierfabr. 68, no. 25:473; no. 27:509; no. 29:549; no. 30:566 (June 19, July 3, 17, 24, 1937); B.I.P.C. 8:49.—The inquirer asks for expedients for reducing the variations in thickness of insulating board from 0.3 - 1 mm., that is from ± 15 to ± 5 per cent. Uniform furnish and pulp inlet, well adjusted presses, and eventual calendering are suggested as remedies.—C.J.W.

Bulky, Light-Colored Boards with a Good Feel from Steamed Groundwood Pulp. H. Postl. Pappen-u. Holzstoff-Ztg. 44, no. 36:388 (Sept. 3, 1937); B.I.P.C. 8:49.—Raw materials and methods of manufacture are briefly described.—C.J.W.

Density of Board and Specific Thickness. Papier-Ztg. 62, no. 72: 1223-1224 (Sept. 8, 1937); B.I.P.C. 8:49.—The author advocates the use of the conceptions of board density (bulk or specific volume) and specific thickness for evaluating and characterizing board quality. Calculations for computing these properties are given.—C.J.W.

Material for Embossing. Walter Hess. Kartonnagen-u. Papierwaren-Ztg. 41, no. 38:401-402, 404 (Sept. 17, 1937); B.I.P.C. 8:93.—Board or carton for embossing must be soft and tough, i.e., consist of long well-felted fibers, or it will not stand up under the embossing pressure and burst. Laminated board, provided that the pasting is uniform and the individual layers are composed of long fibers, is also suitable. Two other important factors are the moisture which can be imparted to the material and its response to the heat which is applied simultaneously with the embossing pressure. Directions for embossing are given to avoid certain common defects, such as distorting, splitting of board into individual layers, warping, etc. It is absolutely essential to make sample embossings prior to the start of the work, in order to test the suitability of the board, the sharpness of the matrix, and the intensity of pressure.—C.J.W.

Wallboard. John Fletcher, assignor to Plastergon Wall Board Co. U.S. pat. 2,089,087 (Aug. 3, 1937).—The marginal zones or the corners of wall board sheets or panels are stiffened or hardened by impregnating or coating with urea-aldehyde resins, phenol-aldehyde resins, polybasic acid-polyhydric alcohol resins, or modified starch. (Cl. 154-45.9).—A.P.-C.

Products of Board Containing Leather. Fritz Ohl. Wochbl. Papier-Fabr. 68, no. 32: 595-97 (Aug. 7, 1937).—Short description of the various leather containing board products, the mechanical preparation of the leather, the cellulose which should be long fibered and free, the treatment with latex and other impregnating materials, and the machine conditions.—j.f.o.

Method of Producing Fibrous Materials from Animal Skins. Roland Runkel and Gustav Lange, assignors to Carl Freudenberg G.m.b.H. U.S. pat. 2,090,902 (Aug. 24, 1937).—Skin scraps that have been normally limed or that have received a supplementary steeping in milk of lime are torn mechanically, are subjected to an acid swelling treatment, and are subjected to further mechanical treatment to produce a fibrous material suitable for making into artificial leather or leather board. (Cl. 92-14).—A.P.-C.

Production of Corrugated Cardboard. Felix Kappler. U.S. pat. 2,089,898 (Aug. 10, 1937).—Oblique corrugations are formed in cardboard having little body and a good feel, like grey cardboard, by means of helically milled rolls in such a way that the material required for forming the ridges is obtained by drawing-like stretching and displacement. In order to prevent gradual lateral displacement of the web by the action of the helically milled rolls, a third roll is provided which, prior to the corrugation proper, presses the web against one of the corrugating rolls. (Cl. 154-30).—A.P.-C.

Quality Control As Applied To A Paperboard Mill*

By R. H. Rositzke [1]

Abstract

Have we stopped to review the progress in paper making? What problems have become uppermost through the transition of the past one hundred years?

The writer has treated the subject of quality control as it applies to a paper mill and its current problems. The paper is segregated in six divisions.

(a) Introduction which describes the tremendous degree of change in the industry during the past century and the new unsolved problems left in the wake of the advance.

(b) Quality—As the customer sees it is devoted to a sound method for linking the reaction and complaints of the customer to mill performance.

(c) Quality—As the mill controls it describes a practical method for tying in customers' complaints through an orderly basis for setting standards and checking Basis Count Performance, and for controlling machine and beater room activities.

(d) Specification sheets—Their value and limitations is devoted to a new method for completely specifying product manufacture.

(e) Analysis of machine activity gives a definite method for avoiding machine trouble before it starts. It also indicates a method for calculating the hidden losses involved in bad, broke and strip production.

(f) Incentives—quality—As it is related to quantity and expenses—The direct workers and supervisory staff. Job and salary evaluation is outlined. A definite means is described for establishing incentives which give a balanced weighting to the factors of quality, quantity, machine and indirect costs.

Introduction

Paper making as performed today, when contrasted with the earlier Chinese methods, is indeed a tribute to the ingenuity of mankind. It is even more remarkable when one appreciates the centuries during which paper making was a known art whereas it is less than one hundred years since the art was converted into a practical mass production industry.

Progress as we have reviewed it in many of the more advanced industries, has brought with it many problems, managerial in character for the following reasons:

1. Most industries started with an idea to fulfill some requirement of mankind and at inception the execution of this idea or the making of the product was under the supervision, control and completion of a single man. His was the function of coordination and execution, his the responsibility and the satisfaction or grief.

2. The modern method of paper making involves a knowledge of power plants, machinery and mechanics, chemistry, some biology and a basic appreciation of physics, to say nothing of the requisite ability necessary for properly coordinating all of these values.

3. The problem now is to coordinate the divergent interests of all people directly or indirectly connected with paper making so that:

(a) The customer is supplied with a product at a price commensurate with the quality delivered.

(b) The maintenance of a standard of living for all those concerned with paper making which will fully justify the industry's existence as an American institution.

(c) The justification of the improvement in the industry's standards of living must in turn come through advanced contribution of the industry to our standards of living through improved product, advanced application and greater uniformity of the delivered product.

A paper such as this can only cover a small portion of your industry's tremendous problem. It is given with the hope that our true intention is clearly demonstrated in the broad sense supported by a detailed picture which will indicate an applied approach to the future aims and accomplishments of your industry. It is our contribution as a step in the attainment of the goals which you and your industry are striving to attain. I am indeed happy for my opportunity in presenting these thoughts as an avenue of approach to our next decade of progress.

Quality As the Customer Sees It (Analysis of Returns and Allowances)

There are several ways whereby the performance of a company or unit may be judged, namely:

1. A comparison of the tonnage of a given item that was produced and sold by the company, as related to the tonnages distributed by the industry as a whole. This data should be related over a period of time.

2. A comparison of what the company itself sold compared with its own returns and allowances.

1. Comparison of Company With Industry Statistics

An indication of the general performance of the company can be derived from this comparison. However, there are certain reservations in judging the quality performance of the mill which must be kept in mind, namely:

(a) If the company improved its position in the industry was this accomplished through the improvement of quality, the introduction of novel and necessary products, or just a reflection of excessive price cutting?

(b) The product of a given company may measure up to the highest quality standards. However, inadequate or poorly managed marketing, or a manage-

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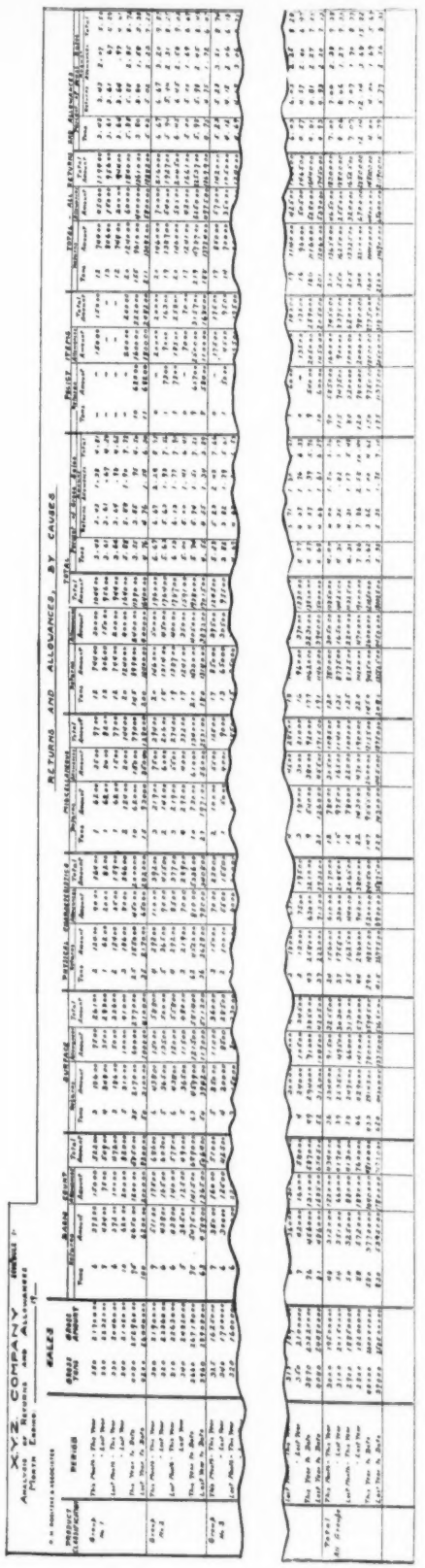
* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Waldorf-Astoria Hotel, New York, N. Y., Feb. 21-24, 1938.

[1] R. H. Rositzke & Associates, New York, N. Y.



ment slow to accept advanced product specifications, may void this excellent mill quality performance.

The statistical comparison referred to has real executive significance. However, because of such qualifying reservations as the ones noted, it does not definitely indicate mill quality performance.

2. Analysis of Customer's Returns and Allowances

Such analysis is more definite and, from the mill point of view, deserves greater consideration. There are again, however, certain reservations, such as:

(a) The stability of the sales department in granting allowances.

(b) The method of accepting returned goods, and designating the reasons for such returns. Does an individual, or a group of individuals, not biased by either manufacturing or sales decide on the acceptance or refusal of each and every return, and approve of the reasons advanced?

(c) Are returns and allowances that are granted because of some customer policy, definitely earmarked and kept separate in such an analysis? Our methods aim to so establish data at its source that final interpretation of results is based on clear and unadulterated premises.

The analysis of customer's returns and allowances as shown on Schedule A, "X.Y.Z. Company, Analysis of Returns and Allowances," is designed so that:

1. Returns and allowances are related to sales volume by product groups.

2. The returns and allowances of each group are analyzed according to cause of return or allowance. In this case we used "basis count," "surface," "physical characteristics" and "miscellaneous." A separate column was provided for entering the value of allowances made because of customer policy.

3. Under each product group, for each type of return the data is reflected in a comparative form as follows:

Figures for
(a) this month—this year
(b) this month—last year
(c) last month—this year
(d) last month—last year
(e) this year to date
(f) last year to date

This comparison gives a current picture of the quality trend supported by a longer range of comparison.

Constructive Action

Such reports are not worth the paper they are written on unless they are properly interpreted, necessary improvements made, and progress carefully noted.

Analysis reveals many sources for guarding against the recurrence of difficulties. In the case of "physical characteristics," corrections of store-room conditions, packing and shipping methods and control offers a big potential improvement.

"Surface" and "physical characteristics" defects are attributable to a number of sources. Machine condition, felts, the uniformity and control over the raw material, and a multitude of minor variations may be the source. Analysis of the cause is the basis for the application of preventive controls.

Undue variations of "basis count" may be checked back to mill control data, once such a control has been properly established.

Quality as the Mill Controls It

In controlling quality, there is no single solution applicable to all paper mills. There are, however, certain basic key points of control, which though they may be treated in various ways nevertheless constitute the centers of the control endeavor.

Generally speaking all paper manufacturers are confronted by the necessity for and desirability of maintaining:

(a) A control of batch uniformity before release to the machines. Indexes of control include such tests as slowness or freeness, consistency and pH or hydrogen-ion determination.

(b) The next point of control covers the material after release and through the machine as finished stock. Routine control tests include the Mullen or bursting test, basis count or density, caliper or thickness, moisture, stiffness, waterproofing, as indicated by oil and water tests, surface examination, etc.

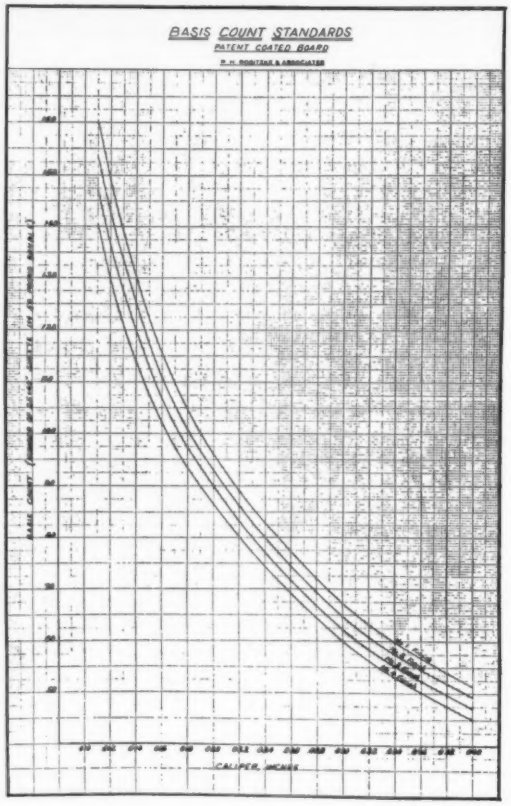
Such controls will be satisfactory to a great many paper manufacturers for, in numerous instances, once a specification is set the biggest problem of the mill is to maintain uniformity.

However in this case example, a third major problem was in evidence.

The mill was in a highly competitive market, producing a board which was subjected to a variety of finishing operations, having highly different final requirements. This third major aspect presented a two-fold problem:

(a) What factors governed the necessary basis count or density standards for the finished qualities required?

(b) Were such standards truly competitive from



XYZ COMPANY — EXHIBIT 2

MACHINE PROCESS CONTROL REPORT

GRADE: _____ DATE: _____ 19__

SPECIFICATION: _____ MACHINE NO. ___ TOUR NO. ___

ORDER NO.: _____ BASIS COUNT: _____

CUSTOMER: _____ REAM WEIGHT: _____

SPEEDS:

_____ FEET PER MINUTE

_____ MINUTES PER 1000 SQUARE FEET

R. H. BONITZKE & ASSOCIATES

LEGEND			
COLOR		CURL	
Satisfactory	S	Flat	F
Off Color	O	Toward Liner	L
Dirty	D	Toward Back	B

SUPPLEMENTARY DATA

TIME OF TEST	LOAD NO. A	LOAD NO. B	COLOR AND CURL (SEE KEY) Color	Curl	SPEED, F.P.M. Maximum Minimum	WEIGHT (5"x20") Front	Center	Back	CALIPER TOTAL Front	Center	Back	CALIPER LINER Front	Center	Back	MULLEN Total	Liner	SMOOTHNESS Front	Center	Back	STIFFNESS With Grain	Across Grain	Either	MOISTURE Front	Center	Back	PLY STRENGTH Front	Center	Back	PENETRATION Oil	Wax	BEATER CHARGE NUMBER Liner	Fillers	Back

the viewpoint of finished product cost and quality?

There are some basic data available in this branch of the paper industry which give some guidance. However it is our experience that standards for an individual must be based on the individual's own requirements and limitations. Conversely, such standards of a given mill will be controlled to the degree of the technical ingenuity of its staff, the definite nature of customer's specifications and the prevailing practices of the industry.

The idea of establishing basis count standards for the individual mill cannot help but crystallize all of the strong points in its manufacturing facilities and tend to show those points at which improvement is desirable or limitations are commercially insurmountable.

Establishment of Basis Count Standards

Wherever figures are available, we consult every known authoritative source. In this particular case the National Paper Board Association prepared average returns of experience of the mills in this group as to their basis count performances, classified as to type of board, and this in turn subdivided by type of finish and caliper.

Such averages serve as a general index. It is necessary, however, for the individual mill to more clearly define its own Basis Count standards, based on its particular marketing requirements and its manufacturing limitations.

We therefore, in this case, defined the maximum variations of quality possible as between various specifications made. Briefly the two extremes, were:

1. A board having no particular finish requirements and very low physical characteristics.

2. A board of high finish, having uniform "inkability" value for difficult inks, and capable of withstanding severe physical strains.

Within these limits, many variations of board can be made. The degree of the aforementioned characteristics as they are required in the board will, in the final analysis, govern the basis count possibilities in grades of formula.

An illustration is shown featuring the establishment of certain patent coated standards. These were established with the following procedure:

1. The industry patent coated standards were charted.
2. Past specifications, as issued to the mill, were plotted for all patent coated, and the relationship to the industry standards was clearly shown.
3. The actual basis count attained by the mill was also plotted.
4. Formulas falling in this patent coated group were classified as to "high finish—top physical requirements," and so down into four classes.
5. The consistency and inconsistency of actual performance with such groupings was carefully noted.
6. The actual results were analyzed separately, by machines.

Several interesting and worthwhile observations came as a result:

(a) One machine gave a better basis count performance on low calipers on given formulas than the other. This called for minor process corrections.

(b) Some specifications were obviously being produced on the "heavy" side which could reasonably be lightened. Others were on the "light" side, and further checkouts proved they were troublesome from a quality angle.

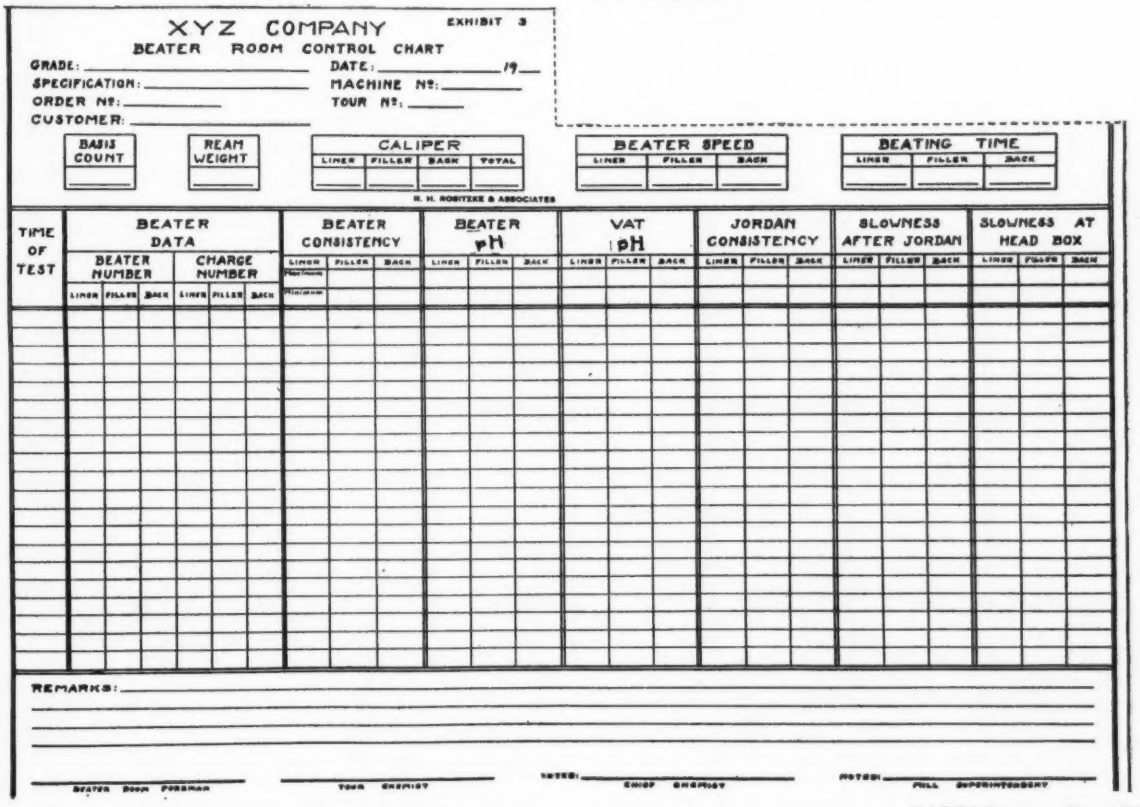

XYZ COMPANY

EXHIBIT 3

BEATER ROOM CONTROL CHART

GRADE: _____ DATE: _____ 19__

SPECIFICATION: _____ MACHINE Nº: _____

ORDER Nº: _____ TOUR Nº: _____

CUSTOMER: _____

BASIS COUNT	REAM WEIGHT	CALIPER				BEATER SPEED			BEATING TIME		
		LINER	FILLER	BACK	TOTAL	LINER	FILLER	BACK	LINER	FILLER	BACK

R. H. ROBITZEK & ASSOCIATES

TIME OF TEST	BEATER DATA						BEATER CONSISTENCY			BEATER pH			VAT pH			JORDAN CONSISTENCY			SLOWNESS AFTER JORDAN			SLOWNESS AT HEAD BOX		
	BEATER NUMBER			CHARGE NUMBER																				
	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK	LINER	FILLER	BACK
							Maximum																	
							Minimum																	

REMARKS: _____

_____ BEATER ROOM FOREMAN _____ TOUR CHEMIST _____ NOTED: CHIEF CHEMIST _____ NOTED: MILL SUPERINTENDENT

(c) The next result gave a balanced method for classification, which in turn aided or resulted in

(c-1) Avoiding wholesale quality trouble before it has a chance to start.

(c-2) Giving a uniform basis for calibrating quality requirements, thereby minimizing the chance of spotty performance at the outset.

(c-3) Taking off the high weight spots, and increasing the low, gave a saving.

The graph indicates four sets of basis count standards for this patent coated group. The same procedure was followed in setting up the standards for the remaining product groups of this mill.

Routine Control of Basis Count Performance

There are two major sources of basis count control, namely:

1. Frequent inspection, in the beater room and at the machines, by the laboratory.

2. Frequent inspection, in the standards division, at the end of every tour.

The frequent calculations by the laboratory serve as a quick basis for informing the mill in regard to irregularities in production currently. It is good practice to have the finisher supplement the laboratory tests.

The overall control calculation of basis count in the standards division, by tours, serves several purposes:

(a) It is a means for establishing an overall average actual record of the entire run.

(b) When discrepancies appear, it serves as a check on the accuracy of weighing and counting.

(c) It reveals the overall accuracy of the laboratory spot checks.

(d) It is a weighted basis for measuring this phase of mill quality, and serves as one of the incentive measuring sticks.

(e) It gives a weighted average on longer runs, thereby becoming a more stable guide in judging basis count performance.

Control of Paper Making in Process

The final basis count results can only be as consistent as the uniformity of the previous operations and the correctness of specification. The two key divisions for measuring such work in process performances, are:

1. Performance as indicated by test control, from the beaters through to the finished board.

2. The results as indicated up to delivery to the machine.

It is advisable to run control test sheets based on these two sub-divisions, for they practically represent a division between the mechanical aspects of processing and the chemical.

Three exhibits follow. Exhibit 1 illustrates the basis count standards, specified for four finish groups, following the analysis previously described. Exhibit 2, is a form of recording machine process data, and Exhibit 3 is a form for a beater room control chart.

Such forms will be different in application depending upon the setup and problems of the individual mill. These exhibits simply refer to one case.

The frequency for making such tests will vary with a number of factors. In highly irregular formulas, doubtful specifications, and entirely new types, it is advisable to run a graphic control over such items until the period of uncertainty is over and a fair degree of uniformity is established.

The development of maximum and minimum ranges must be based on good performance obtained over a reasonable period of time. Such ranges and standards should be finally agreed upon by the laboratory, the mill superintendent, and the standards division, and should be set up in a form readily available to the responsible mill supervisors. If their performance is to be judged, they should be fully apprised as to the basis upon which such judgment, and the incentives, are based.

The Value and Limitations of Specification Sheets

The degree of the possible quality of any board is limited by the original specification. At this point decisions must be made as to the various characteristics required in the finished board. Thereafter, the cost must be developed to see whether the market will pay for such requirements. Many intermediate considerations must be given in companies where the product must enter into open competition.

Under the old manner of doing things, some previous formula which had met with some success was referred to and a new formula issued based on past experience only. Whether such past experience was as satisfactory as it should have been, or requirements of the finished product had changed, in the interim, was either met in some unidentified manner or, most frequently, was missed completely.

This led us to develop a specification sheet which not only provides space for the specified furnish, (the usual inclusion on a formula card) but also provides definite captions for complete processing data, such as:

1. A basis for relating the total pounds of furnish required to the amount of finished board which can normally be expected.

2. The maximum, minimum and standard number of sheets 25 x 40 inches, (or any other standard size), which might be expected in a 50-pound bundle, for the various calipers produced.

3. The specified speed at which the various calipers should be run, expressed as a maximum and minimum, in linear feet per minute or thousand square feet per minute.

4. The caliper of the liner, filler and back, maximum and minimum, for different overall calipers made from the same formula.

5. The maximum, minimum and standard moisture content of the sheet.

6. Stock slowness, maximum and minimum as specified for liner, filler and back.

7. Beater data, as to the time cycle for furnishing, beating and dumping the liner, filler and back.

Ample space is provided for comments in regard to the characteristics of the sheet, and additional qualifying remarks and process comments.

In addition, laboratory control data has been provided for. In this case provision was made for test ranges, or tolerance, and a standard provided for each of the following:

(a) Mullen test (Bursting strength in pounds per square inch.)
(b) Sizing test (including the specifying of the type of test to be made.)
(c) Ply strength.
(d) Stiffness: With grain and across grain.
(e) Tearing Resistance: with grain and across grain.

X. Y. Z. COMPANY
SPECIFICATION SHEET - MACHINE Nº ___

GRADE: TRADE _____ CODE _____
MILL _____ FORMULA _____

| SPECIMEN SHEET | | THEORETICAL FURNISH (IN POUNDS) BASED ON SPECIMEN SHEET | | |

reveal spotty or complete lack of production planning. Long term planning, quite frequently possible, minimizes such production breaks and thereby makes a greater uniformity of product possible.

Another series of analyses frequently is suprising. In discussing such items as "Strip" and "Bad and Broke" with mill managers, the thought is frequently expressed that such items mean very little inasmuch as they are returned to the beaters and no material is lost. The following example is based on a machine having a $35.00 per hour cost.

	480 Hour Schedule Tons Produced	Production cost Value
Good paper	720	$14,284.48
Strip	58	713.74
Bad and broke	36	1,149.73
Total	814	$16,147.95
Machine down-time cost		652.05
Total machine cost—480 Hours		$16,800.00

Almost $2,000.00 of possible machine output was consumed or wasted in the manufacture of "strip" and "bad and broke". This is not unusual. It can be corrected through:

(a) Analysis of the causes for "bad and broke", and the tonnages produced in the various groups.

(b) Planning paper width layouts for improvement of yield by taking the fullest possible advantage of the total width of the machine.

"Bad and broke" increases the mill force necessary, causes a great deal of discomforting effort to the employees, costs machine capacity and results in many avoidable quality fluctuations.

Excessive "strip" is plainly lost production capacity which, if it costs nothing more, still includes crew attendance expense.

What to Do

This type of research entails a number of factors, primarily "preventive maintenance". A basis for

EXHIBIT 4. PAPER MACHINES PREVENTIVE MAINTENANCE

Machine Part	Should Be Checked For	Defects Will Cause	How Checked	Should Be Checked	Condition and Remarks
Press Rolls	Crown	Uneven, wear, Wrinkles, bagging, Streaks, Filling Up	Caliper of roll or moisture test of sheet across machine.	Every two months	Grinding or recovering
	Density	Excessive wear, Filling Up	Plastometer or Densometer.	Every two months	Recovering
	Weighting	Excessive wear and marking if too heavy	Weights on levers.	Every two months	Determine best suitable weighing for conditions
	Alignment	If out of line a shearing effect takes place causing excessive wear, streaks, bagging and wrinkles. Particularly the nap is affected.	Actual measurement	Every two months	Lining up
	Slippage	Excessive wear, streaks and filling up	Tachometer	Every two months	Installation of compensation drives or improved felt travel
	Corrugating	Excessive wear	Actual observation	Every two months	Grinding or recovering
Felt Rolls	Covering	Excessive wear	By observation	Every two months	Rubber considered best
	Bearings	Excessive wear	Tachometer	Weekly	Must be made free moving
	Alignment	Excessive wear	Measurement	2 Months	Lining up
	Diameter	Excessive wear	Observation	2 Months	Small diameters will cause excessive wear
	Balance	Excessive wear	Observation	2 Months	Must run true
	Worms	If too high or too sharp, nap wears off quickly	Observation	2 Months	Must have proper height with edges rounded off
Spreader Rolls	Arc of Contact	Excessive wear if too heavy	Actual observation	Every couple of months	Experiment to determine arc of contact necessary
	Pitch	Excessive wear if too heavy	Actual observation	Every couple of months	Use as little as possible
	Edges	Excessive wear if too sharp	Actual observation	Every couple of months	Round off edges
Board Machine Couch Rolls	Eveness Across	High edges will cause excessive wear on edges of felt	Actual observation	When changing felts or during operation	Grinding or recovering
Suction Rolls	Covers and Holes	Sharp hole edges will cause excessive wear and hole marks	Actual observation	Every two months	Grinding
Suction Boxes	Covers and Suction	Rough cover, excessive wear. Excessive suction, excessive wear.	Actual observation	When changing felts	Planning of ideal amount of suction is to be determined thru experimentation
Felt Conditioner	Pressure Temperature	Excessive wear will result if either one is too high.	Actual observation	When changing felts	By selection of proper type for individual requirements and determination of pressure and temp. best suitable
Whippers	Speed Contact	Excessive wear, streaks, bagging, and frailed edges.	Actual observation	Daily for results when changing felts	There is an ideal relationship between speed and contact for each individual requirement
Cylinders	Deckles*	If too narrow excessive wear on edges will result.	Actual observation		
Slice Boards	Roughness	Roughness, too hard contact or excessive weighting will all result in shortening of felt life.	Actual observation	When changing felts	Planing off
	Contact	Roughness, too hard contact or excessive weighting will all result in shortening of felt life.	Actual observation	Daily	Adjusting
	Weighing	Roughness, too hard contact or excessive weighting will all result in shortening of felt life.	Actual observation	Daily	Experimenting
Water Conditions	Hardness Purity	Short life. Filling up.	Laboratory tests		Governed by laboratory analysis
Shower Pipes	Holes	Must be kept open and clean.	Actual observation	When changing felts	Determination of right size holes and cleaning out.

A daily check on felt lengths at various points in their travel is recommended, to detect condition of bearings. This test frequently shows excessive pull at some particular point. When remedied, a longer felt life is obtained.
Oiling should take place as often as found necessary to secure proper operation. This varies with type and condition of machines as well as speeds under which they are operated.

* It seems as thin a deckle as possible is to be preferred. The best method to put it on is to sew it on with wire. Pins may also be used but tacks should be avoided.

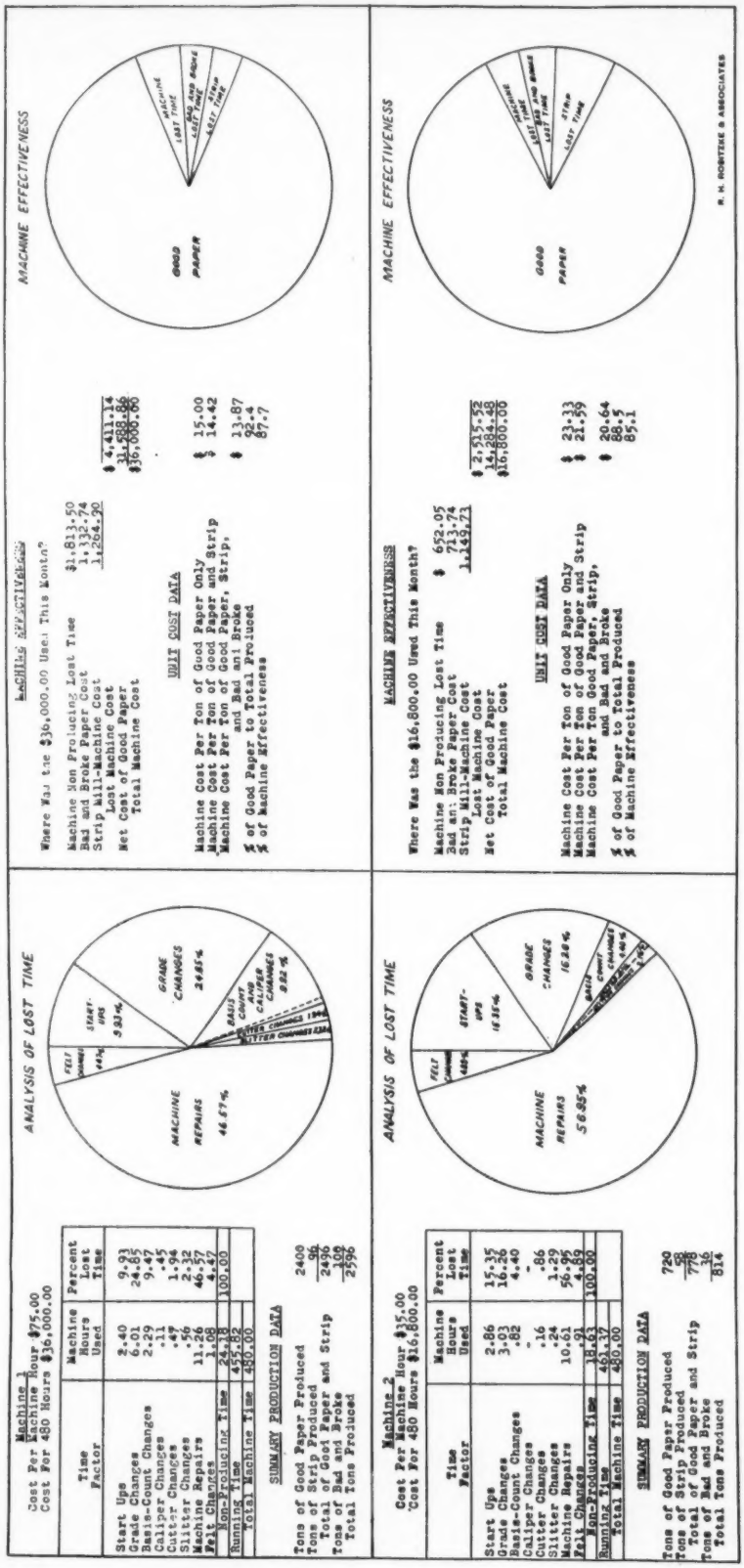


EXHIBIT 5
ANALYSIS OF MACHINE EFFECTIVENESS
Effect of Bad and Broke, Strip, and Machine Down-Time on Costs
Machine 1
Cost Per Machine Hour $75.00
Cost For 480 Hours $36,000.00
ANALYSIS OF LOST TIME
MACHINE EFFECTIVENESS
Where Was the $36,000.00 Used This Month?
Machine Non Producing Lost Time $1,813.50
Bad and Broke Paper Cost 1,132.74
Strip Mill-Machine Cost 1,264.90
Lost Machine Cost $ 4,411.14
Net Cost of Good Paper 31,588.86
Total Machine Cost $36,000.00
UNIT COST DATA
Machine Cost Per Ton of Good Paper Only $ 15.00
Machine Cost Per Ton of Good Paper and Strip $ 14.42
Machine Cost Per Ton of Good Paper, Strip, and Bad and Broke $ 13.87
% of Good Paper to Total Produced 92.4
% of Machine Effectiveness 87.7
Time Factor
Machine Hours Used
Percent Lost Time
Start Ups 2.40 9.93
Grade Changes 6.01 24.85
Basis-Count Changes 2.29 9.47
Caliper Changes .11 .45
Cutter Changes .47 1.94
Slitter Changes .56 2.32
Machine Repairs 11.26 46.57
Felt Changes 1.08 4.47
Non-Producing Time 24.18 100.00
Running Time 455.82
Total Machine Time 480.00
SUMMARY PRODUCTION DATA
Tons of Good Paper Produced 2400
Tons of Strip Produced 96
Total of Good Paper and Strip 2496
Tons of Bad and Broke 100
Total Tons Produced 2596
MACHINE
REPAIRS
46.57%
START-UPS
9.93%
GRADE CHANGES
24.85%
BASIS COUNT AND CALIPER CHANGES
9.92%
FELT CHANGES
4.47%
GOOD PAPER
MACHINE LOST TIME
BAD AND BROKE LOST TIME
STRIP LOST TIME
Machine 2
Cost Per Machine Hour $35.00
Cost For 480 Hours $16,800.00
Time Factor
Machine Hours Used
Percent Lost Time
Start Ups 2.86 15.35
Grade Changes 3.03 16.26
Basis-Count Changes .82 4.40
Caliper Changes - -
Cutter Changes .16 .86
Slitter Changes .24 1.29
Machine Repairs 10.61 56.95
Felt Changes .91 4.89
Non-Producing Time 18.63 100.00
Running Time 461.37
Total Machine Time 480.00
SUMMARY PRODUCTION DATA
Tons of Good Paper Produced 720
Tons of Strip Produced 58
Total of Good Paper and Strip 778
Tons of Bad and Broke 36
Total Tons Produced 814
MACHINE EFFECTIVENESS
Where Was the $16,800.00 Used This Month?
Machine Non Producing Lost Time $ 652.05
Bad and Broke Paper Cost 713.74
Strip Mill-Machine Cost 1,149.21
Lost Machine Cost $ 2,515.52
Net Cost of Good Paper 14,284.48
Total Machine Cost $16,800.00
UNIT COST DATA
Machine Cost Per Ton of Good Paper Only $ 23.33
Machine Cost Per Ton of Good Paper and Strip $ 21.59
Machine Cost Per Ton Good Paper, Strip, and Bad and Broke $ 20.64
% of Good Paper to Total Produced 88.5
% of Machine Effectiveness 85.1
ANALYSIS OF LOST TIME
MACHINE REPAIRS 56.95%
START-UPS 15.35%
GRADE CHANGES 16.26%
FELT CHANGES 4.89%
GOOD PAPER
MACHINE LOST TIME
BAD AND BROKE LOST TIME
STRIP LOST TIME
R. H. ROBERTS & ASSOCIATES

FIG. 6

planning the maintenance of a paper machine, and the mill in general, is developed through the following procedure:

1. List all machinery and moving equipment essential to the continuous operation of the paper mill.

2. Analyze each item of equipment and machinery, and establish a schedule of routine inspection;—daily, weekly, monthly, bimonthly, quarterly, semiannually and annually. This should be reduced to writing and the responsibility for such checks placed on certain individuals. The first trials of such a method will be cumbersome. As experience develops, short cuts and smoother operation will result.

3. Develop routine report methods for ascertaining the results of such preventive inspections, and link the findings with a "Repair Authorization" routine and supervisory approval.

Exhibit 4. "Paper machines, preventive maintenance", follows. It gives an outline of such a standard practice procedure when applied to certain of the key points of a paper machine. In this layout the following is specified.

(a) The machine part which is to be checked.

(b) What it should be checked for.

(c) How it should be checked.

(d) How frequently it should be checked.

(e) The defects that a bad condition will cause.

(f) What the corrective measures are where defects are in evidence.

(g) Inspection comments.

Exhibits 5 and 5A, represents a summary review of the activity of two machines, both in figures and graphs, for a given period. Machine effectiveness is clearly indicated, and the causes for reduction of mill performances are shown.

Power and Power Breaks

Power breaks are a disturbing factor in a mill which is either under-powered or is subjected to violent fluctuations in load. Such conditions, when found, require a very careful type of research and should be carefully checked through a systematic method of instrument and chart control. Many avoidable power peaks can be reduced through such control followed by corrective action.

The power plant is improved considerably by tying in preventive maintenance schedules with its routine work.

Other Analytical Aids

There are several major auxiliary aids, including records, analyses, and the many modern recording and measuring instruments which are available. Making use of these, it is advisable at times to run detailed studies of such items as:

1. "Bad and broke". The number of times a break occurs, and the duration of the break, may be taken from the machine reports and recording instruments. The number of occurrences should occasionally be spot-checked for frequency of occurrence by causes of breakage. This in turn should be spot-checked to determine the percentage of the total tonnage of "bad and broke" resulting from the various causes.

2. A detailed analysis of "machine repair expenses" will clearly indicate excessive repair recurrences on certain parts, and pave the way for reduction of avoidable down-time and expense. It may result in changes of repair part specifications or methods of repair.

3 Comparative analysis of felt life and felt cost should be established, preferably in graphic form, so that long term comparisons are readily possible. Poor felt performance may result from a number of causes, such as:

(A) Improper or insufficient water pressure or shower capacity.

(B) Excessive felt wear because of too great a number of spreader rolls.

(C) Improper biological or chemical condition of the water.

(D) Excessive slippage.

(E) Improper or unbalanced roll alignments.

(F) The usage of felts not suited to the task required.

Current analysis of felt performance can aid considerably in spotting basic conditions which are seriously affecting the entire quality of the product.

The measure of felt life is a subject open to much discussion.

(a) The simplest measure, most frequently used, is the number of tons produced on a given felt.

(b) Some mills attempt to measure felt life by the actual footage the felt runs.

Both methods have some shortcoming. However, it is advisable under any conditions to maintain some form of record of individual felts, by grade, type, and performance.

INCENTIVES

Quality—As It Is Related to Quantity & Expense The Direct Workers & Supervisory Staff

Thus far we have discussed only one incentive inducement to an organization. This is the desire of the mill organization to produce the best quality consistent with the facilities and potential abilities of the organization. This to have any material effect must be based upon an appreciation by the organization of:

(a) The understanding of the individuals establishing the measuring sticks.

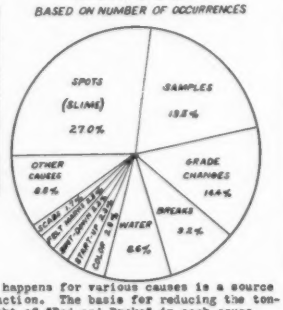
ANALYSIS OF BAD AND BROKE - BY CAUSE AND WEIGHT

EXHIBIT 5A

MACHINE 1

Causes	Number of Occurrences	% of Total
Spots (Slime)	47	27.0
Samples	34	19.5
Grade Changes	25	14.4
Breaks	16	9.2
Water	15	8.6
Color	5	2.9
Start-Up	4	2.3
Shut-Down	4	2.3
Felt Marks	4	2.3
Scabs	3	1.7
Other Causes	17	9.8
	174	100.0

BAD AND BROKE
BASED ON NUMBER OF OCCURRENCES



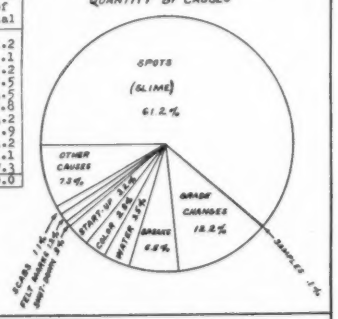
The number of times "Bad and Broke" happens for various causes is a source for correction of intermittent production. The basis for reducing the tonnage loss is an analysis of the weight of "Bad and Broke" in each cause.

MACHINE 1

Causes	Pounds	% of Total
Spots (Slime)	122,400	61.2
Samples	200	.1
Grade Changes	24,400	12.2
Breaks	13,000	6.5
Water	7,000	3.5
Color	5,600	2.8
Start-Up	6,400	3.2
Shut-Down	1,800	.9
Felt Marks	2,400	1.2
Scabs	2,200	1.1
Other Causes	14,600	7.3
	200,000	100.0

In this case, Bad and Broke was reduced by more than 25% through water chlorination and the benefit of incentive control.

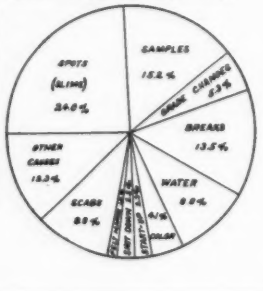
BAD AND BROKE
QUANTITY BY CAUSES



MACHINE 2

Causes	Number of Occurrences	% of Total
Spots (Slime)	41	24.0
Samples	26	15.2
Grade Changes	9	5.3
Breaks	23	13.5
Water	17	9.9
Color	7	4.1
Start-Up	4	2.3
Shut-Down	4	2.3
Felt Marks	2	1.2
Scabs	17	9.9
Other Causes	21	12.3
	171	100.0

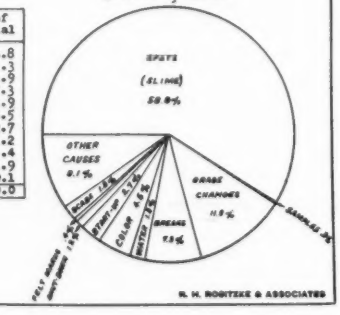
BAD AND BROKE
BASED ON NUMBER OF OCCURRENCES



MACHINE 2

Causes	Pounds	% of Total
Spots (Slime)	42,300	58.8
Samples	200	.3
Grade Changes	8,700	11.9
Breaks	5,200	7.3
Water	1,400	1.9
Color	3,200	4.5
Start-Up	1,900	2.7
Shut-Down	900	1.2
Felt Marks	300	.4
Scabs	1,400	1.9
Other Causes	6,500	9.1
	72,000	100.0

BAD AND BROKE
QUANTITY BY CAUSES



R. H. ROSITZKE & ASSOCIATES

FIG. 8.

(b) The thoroughness, accuracy and general fairness of standard ranges established.

(c) The manner of explanation and the methods adopted in focusing results.

Beyond such an incentive, however, there is the financial inducement to all responsible individuals for their contribution towards attaining better than usual performance. With the background of quality control and machine preventive maintenance it is then possible to proceed with the establishment of financial inducement for the manufacturing personnel which will stimulate improvement of quality, bring home the desirability of avoiding excess machine and material wastage and will assure a sound increase of production.

There are two divisions as to personnel necessary in the establishment of mill incentives.

1. Incentive measures which will give an inducement to the mill supervisory force for improvement of all controllable quality and expense items which come under their control or jurisdiction.

2. The incentive inducements for the rank and file of the mill force which will be limited to the factors within the control of the mill crews.

INCENTIVE ESTABLISHMENT—RANK AND FILE OF WORKERS

There are several steps essential to the proper establishment of such incentives. They are:

1. Establishment of the duties which are to be performed on each and every designated job, machine tender, screen tender, back tender, etc.

2. On the basis of such designations, establish the relative worth of all such occupations through the method of job evaluation. Such relative values of different occupations or jobs are established through a definite evaluation of each job's requirement as to:

(a) Mentality or foundation or the pre-requisite intelligence necessary for the development of normal skill.

(b) The skill required as indicated by the length of training necessary, the variety and complexity of operations, the dexterity and manual skill necessary.

(c) The responsibility of the job as indicated by the product damage possible and probable, the equipment damage possible and probable, the probability of accident and the safety of other employees.

(d) The mental application as indicated by the intensity and frequency of thought necessary.

(e) The physical application as indicated by physical fatigue and the necessary concentration of effort.

(f) The degree of difficulty due to working conditions such as heat, noise, eyestrain, oil, accident, health hazards, etc.

After the relationship of all occupations has been established on this basis it is necessary to establish the "company basic" policy allowance. This is based on the minimum relative starting rate value of an employee.

This procedure completed, it is then desirable to compare the relative values of occupations as established with those in force. Inequalities should be reviewed carefully and executive decision sought.

3. The third step involves the establishment of tour and crew standards. A standard machine organization should be developed as it relates to machine hours and production.

4. More detailed machine time standards are then established for such factors as:

(4-1) Running time standards, maximum, minimum and average due allowances made for normal losses of production.

(4-2) Machine down-time standards for such items as:

(a) Start-ups
(b) Clean-up
(c) Grade change
(d) Basis count change
(e) Caliper change
(f) Cutter change
(g) Slitter change
(h) Standard recurring repairs
(i) Felt changes

5. The basis count and evenness performance should be converted into a common incentive measurement factor.

6. The relative incentive inducement for each factor should be established. In this case it was considered desirable to have the crew earn of from 20 to 30 per cent of their base pay through incentives if a better than normal result was obtained. The incentive inducements were divided as follows:

(6-a) For improvement of basis count with maintenance of evenness 10 to 15 per cent or practically 50 per cent of their possible additional compensation.

(6-b) For improvement of production per crew hour of from 3 to 4½ per cent.

(6-3) For improvement of production per machine hour from 5 to 7½ per cent.

(6-d) For reduction of "Bad and Broke" of from 2 to 3 per cent.

This gave a range of from 20 to 30 per cent possible incentive earning with 50 per cent of this stressing quality.

On such a basis the crew when faced by the necessity for slowing down a machine to maintain quality, can nevertheless earn an incentive. On the other

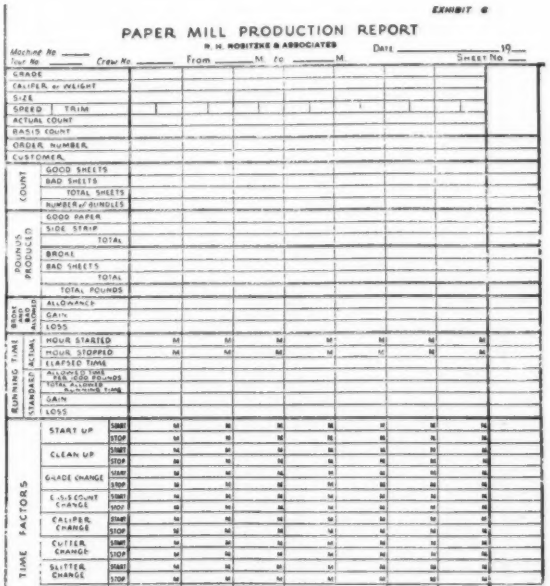


EXHIBIT 6

PAPER MILL PRODUCTION REPORT

R. H. ROBITZEK & ASSOCIATES

Machine No. ____ Tour No. ____ Crew No. ____ From ____ M. to ____ M. Date ____ 19__ Sheet No. ____

GRADE
CALIPER or WEIGHT
SIZE
SPEED | TRIM
ACTUAL COUNT
BASIS COUNT
ORDER NUMBER
CUSTOMER

COUNT: GOOD SHEETS; BAD SHEETS; TOTAL SHEETS; NUMBER of BUNDLES

POUNDS PRODUCED: GOOD PAPER; SIDE STRIP; TOTAL; BROKE; BAD SHEETS; TOTAL; TOTAL POUNDS

BROKE ALLOWED: ALLOWANCE; GAIN; LOSS

RUNNING TIME STANDARD ACTUAL: HOUR STARTED; HOUR STOPPED; ELAPSED TIME; ALLOWED TIME PER 1000 POUNDS; TOTAL ALLOWED RUNNING TIME; GAIN; LOSS

OTHER TIME FACTORS: START UP; CLEAN UP; GRADE CHANGE; BASIS COUNT CHANGE; CALIPER CHANGE; CUTTER CHANGE; SLITTER CHANGE; MACHINE REPAIRS; BROKE; OTHER — each START/STOP

TOTAL ELAPSED TIME
ALLOWABLE TIME
GAIN
LOSS

NUMBER OF 2000 POUND BEATERS FURNISHED: LINER; FILLER; BACK

REMARKS

hand, top earnings are realizable only when all factors are uniformly good.

The installation procedure, thereafter, included:

1. Design and installation of proper means for recording and later calculating results.

2. Statements which clearly indicated the results of the different tours and crews.

3. A "scoreboard" for showing results currently to the incentive participants.

4. The support of such a scoreboard with simple methods for explaining the derivation of incentives.

Exhibit 6 is a sample of a machine production summary. It was printed in three colors, one for each tour. It is an important link in the calculation of the incentive results.

KEY MAN INCENTIVES

The establishment of key man incentives is preceded by a definite program comparable to the one followed in the establishment of the incentives for the rank and file of workers. There is one major exception however. The scope of their responsibility is greater and therefore the factors under their control are broader in scope and recognition must be given this in the establishment of their "targets".

1. The relative values of different occupations were established through a process of salary evaluation.

2. The former salary evaluation clearly defined the scope of responsibility and the duties of those eligible for key-man participation.

3. It was necessary to further classify these individuals into several groups.

(a) Those having general authority over and responsibility for all activities of the mill, power, maintenance, paper making, shipping, delivery schedules, etc.

(b) Those having less general authority and responsibility such as power and yard, maintenance, etc.

(c) Those in direct charge of a single function only such as the day mill superintendent, the boiler room engineer, the yardmaster, etc.

4. This classification was followed by the establishment of controllable expense standards as for instance:

(a) Power standards were established which included such items as coal, purchased power, the cost of maintaining boilers and power equipment, the crew necessary, etc.

(b) Mill standards as previously described were tied in with additional standards for items such as felts, machine repair costs, returned goods from customers chargeable to the mill, indirect labor and some other minor factors.

(c) Yard standards were established separately.

(d) The laboratory was given a measuring stick.

5. The development of standards based on a two year analysis of results was followed by:

(a) Development of the plan, statement of payment periods, a definition of the necessary reserves and complete discussion of the administrative features.

(b) Development of the forms necessary for routine computation of the results.

(c) Discussion of results with the interested participants.

Yale Installs Important Wood Collection

The Yale School of Forestry has recently installed a unique exhibit of more than one hundred Philippine, Bahaman, and American woods, finished in the form and size of books. The woods were assembled and prepared by Benjamin W. Arnold, of Albany, N. Y., and have been presented to Yale University by Mrs. Arnold, as a memorial to her husband. They have been designated as the Benjamin Walworth Arnold Memorial Collection, and incorporated in the School's permanent exhibit of the woods of the world.

Mr. Arnold, who was the father-in-law of Ledyard Cogswell, Jr., Yale 1899, was born in Albany on April 30, 1865, and became engaged in the lumber business in 1884. He rose to a position of prominence in the Albany Lumber District and, at the time of his retirement in 1925, was a partner in Alger, Smith and Company and head of the Spanish River Lumber Company, of Spanish Mills, Ontario. In 1904, he was a presidential elector for Theodore Roosevelt. He served as a member of the New York State Board of Charities for a number of years, and as honorary curator of ornithology in the New York State Museum. He was President and Trustee of the Dudley Observatory and of the Albany Hospital, a Director of the Mechanics and Farmers Bank, and Trustee of the Albany Savings Bank and of the Fourth Presbyterian Church, of which he was also an Elder. He died on November 8, 1932.

The wood collections of the Yale School of Forestry, of which the Arnold gift is now a part, are the most nearly complete of any in existence. Under the direction of Professor Samuel J. Record, more than 35,000 samples of wood have been assembled and made available for scientific research. These collections form the basis for a cooperative study that is now being made by wood anatomists in the United States and many foreign countries.

Power Improvements for Green Bay

[FROM OUR REGULAR CORRESPONDENT]

KAUKAUNA, Wis., March 28, 1938—Extensive improvements in the power generating equipment of the Green Bay and Mississippi Canal Company designed to increase its efficiency 12 per cent and costing approximately $32,000 has been given the approval of the Wisconsin Public Service Commission at Madison, Wis.

The company's plants are leased to the City of Kaukauna and are operated as a municipal utility. Included in the plans is the reconditioning of a triple turbine at the old Badger plant at a cost of $16,500; retirement of two water wheel driven exciters in the Badger plant, and replacing a fixed water wheel with an adjustable blade unit at the new Badger plant at a cost of $14,300. Turbine and water wheel improvement will make possible more energy so the exciters will no longer be necessary.

H. F. Weckwerth, manager of the utility, said most of the work would be done in July and August, during low water stages on the Fox River.

Imports of Paper and Paper Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports, of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard, Wallboard, Cigarette Papers, Sulphite, Kraft and Ground Wood Pulp.

NEW YORK IMPORTS

WEEK ENDING MARCH 26, 1938

SUMMARY

Cigarette paper	285 cs.
Wall paper	2 pkgs., 4 bls.
Paper hangings	1 cs.
Newsprint	3,379 rolls
Printing paper	4 bls., 55 cs.
Wrapping paper	1 cs.
Drawing paper	10 cs.
Filter paper	11 pkgs., 5 cs.
Tissue paper	69 cs.
Card board	9 cs.
Miscellaneous paper	54 cs.

CIGARETTE PAPER

American Tobacco Co., *Collamer,* Bordeaux, 276 cs.
Moller Products Corp., *Pr. Garfield,* Genoa, 9 cs.

WALL PAPER

F. J. Emmerich, *Scythia,* Liverpool, 4 bls.
J. E. Bernard & Co., *Gerolstein,* Antwerp, 2 pkgs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Trader,* London, 1 cs.

NEWS PRINT

N. Y. Evening Journal, *Markland,* Liverpool, N. S., 591 rolls.
N. Y. Tribune, by same, 1518 rolls.
World Telegram, by same, 558 rolls.
Brooklyn Daily Eagle, by same, 616 rolls.
Westchester Newspapers, Inc., by same, 40 rolls.
Parsons & Whittemore, Inc., by same, 56 rolls.

PRINTING PAPER

Oxford University Press, *Scythia,* Liverpool, 19 cs.
Burroughs Wellcome & Co., by same, 4 bls.
S. Bienfang, *Edam,* Rotterdam, 24 cs.
Steiner Paper Corp., *Gerolstein,* Antwerp, 12 cs.

WRAPPING PAPER

American Express Co., *Gerolstein,* Antwerp, 1 cs.

DRAWING PAPER

Favor Ruhl & Co., *Andania,* London, 2 cs.
H. Reeve Angel & Co., Inc., by same, 2 cs.
J. J. Murphy & Co., *Queen Mary,* Southampton, 1 cs.
Steiner Paper Corp., *Gerolstein,* Antwerp, 5 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., *Andania,* London, 5 cs.
do *Queen Mary,* Southampton, 11 pkgs.

TISSUE PAPER

Remington Rand, Inc., *Koryo Maru,* Kobe, 20 cs.
Irving Trust Co., by same, 8 cs.
Corn Exchange Bank Trust Co., by same, 35 cs.
Alex D. Shaw Co., *Queen Mary,* Southampton, 3 cs.
B. F. Drakenfeld & Co., *Scythia,* Liverpool, 3 cs.

CARD BOARD

G. W. Miller & Co., Inc., *J. Jadot,* Antwerp, 9 cs.

MISCELLANEOUS PAPER

F. C. Strype, *Black Condor,* Rotterdam, 44 cs.
H. Reeve Angel & Co., Inc., *Koryo Maru,* Kobe, 10 cs.

RAGS, BAGGINGS, ETC.

Royal Manfg. Co., *J. Jadot,* Antwerp, 66 bls. cotton waste.
M. Snedeker Corp., *American Shipper,* Belfast, 100 bls. paper stock.
Irving Trust Co., by same, 10 bls. thread waste.
J. Cohen & Son Co., Inc., *Scythia,* Liverpool, 13 bls. rags, 16 bls. paper stock.
Hughes Fawcett, Inc., by same, 21 bls. flax waste.
———, *Ogontz,* Alexandria, 144 bls. bagging.
Philadelphia National Bank, by same, 150 bls. rags.
J. T. Flannery, Co., *R. Maersk,* London, 114 bls. rags.
W. Steck & Co., by same, 68 bls. old strings.
M. Harrison & Co., by same, 41 bls. rags.
Keene, Inc., *Collamer,* Havre, 130 bls. rags.
R. Blank, by same, 92 bls. rags.
W. J. Green, by same, 30 bls. rags.
Chase National Bank, *Collamer,* Bordeaux, 195 bls. rags.
R. Blank, *Collamer,* St. Nazaire, 167 bls. rags.

HIDE CUTTINGS

American Express Co., *American Shipper,* Liverpool, 1080 bags.

OLD ROPE

Chase National Bank, *American Trader,* London, 66 coils.
G. W. Millar & Co., Inc., *Edam,* Rotterdam, 39 coils.
W. Steck & Co., *R. Maersk,* London, 67 bls.
G. W. Millar & Co., Inc., *R. Maersk,* Rotterdam, 44 coils.

CHINA CLAY

Whitaker Clark & Daniels, *Scythia,* Liverpool, 260 bags.

WOOD PULP

Johaneson Wales & Sparre, Inc., *Pluto,* Sundsvall, 360 bls. kraft sulphate, 60 tons.
Johaneson Wales & Sparre, Inc., *Pluto,* Sundsvall, 3450 bls. sulphite, 675 tons.
Mead Sales Co., by same, 610 bls. sulphite, 121 tons.
Bulkley Dunton Pulp Co., *Pluto,* ———, 362 bls. sulphite, 72 tons.
———, *Alberta,* Trieste, 750 bls. wood pulp.
Gottesman & Co., Inc., *Belos,* Sweden, 3768 bls. sulphate.

ALBANY IMPORTS

WEEK ENDING MARCH 26, 1938

Price & Pierce, Ltd., *Tyrifjord,* Greaker, 1925 bls. bleached sulphite.
Halifax Pulp & Paper Co., *Einvik,* Sheet Harbor, 8257 bls. mechanically ground pulp.
Halifax Pulp & Paper Co., *Einvik,* Sheet Harbor, 576 bls. wood pulp screenings.

NEWARK IMPORTS

WEEK ENDING MARCH 26, 1938

———, *Einvik,* Sheet Harbor, 2178 bls. mechanically ground pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 26, 1938

F. Weber & Co. *Black Condor,* Antwerp, 5 cs. drawing paper.
Castle & Overton, Inc. *Edam,* Rotterdam, 77 bls. rags.
Keer Maurer Co., Inc., *R. Maersk,* London, 103 coils old rope.
E. J. Keller Co., Inc., *Collamer,* ———, 193 bls. rags.
Castle & Overton, Inc., *Collamer,* Havre, 42 bls. rags.
Continental Bank Trust Co., by same, 57 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING MARCH 26, 1938

———, *Alberta,* Trieste, 250 bls. wood pulp.
Price & Pierce, Ltd., *Trafalgar,* ———, 1280 bls. bleached sulphite.

NORFOLK IMPORTS

WEEK ENDING MARCH 26, 1938

Irving Trust Co., *Black Gull,* Antwerp, 141 bls. bagging.

Loumar Textile By Products Co., by same, 82 bls. bagging.
Carolina Bagging Co., *Black Gull,* Rotterdam, 120 bls. bagging.
N. Y. Trust Co., *Collamer,* Havre, 290 bls. bagging.
Champagne Paper Corp., *Collamer,* Bordeaux, 500 cs. cigarette paper.

NEWPORT NEWS IMPORTS

WEEK ENDING MARCH 26, 1938

Mead Sales Co., *Pluto,* Sundsvall, 10,500 bls. kraft sulphate, 1750 tons.
Mead Sales Co., *Pluto,* Sundsvall, 3000 bls. sulphite, 500 tons.
Bulkley Dunton Pulp Co., *Pluto,* ——, 4800 bls. kraft sulphate, 800 tons.
——, *Pluto,* Stugsund, 4500 bls. sulphate, 900 tons.

Dr. I. T. Haig to Head Research Division

Dr. Irvine T. Haig has been appointed chief of the Division of Silvics, one of the oldest and most important of the research divisions of the U. S. Forest Service, Chief Forester F. A. Silcox announced today. Doctor Haig has been acting head of the Division for the past year.

"The work of the Division of Silvics is to furnish to Federal, State, and private agencies and individuals, technical information necessary for the reforestation, protection and management of forest lands in such manner as to insure an adequate future supply of lumber and other forest products, and to maintain forest cover where needed for recreation and protection of watersheds and wildlife," Mr. Silcox said.

Doctor Haig has a broad background of technical training and experience. He is a native of Pennsylvania. He received his B.S. degree from Penn State and his Master's and doctorate from Yale. He has had fifteen years' experience on various assignments in the Forest Service in Washington and the field and is an outstanding investigator in the field of silviculture and recognized as an authority on regeneration and management of western white pine. Doctor Haig will assume his new duties immediately.

Brotherhood To Be Bargaining Agent

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 23, 1938.—The National Labor Relations Board has announced certification of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, Local 332, as the sole bargaining agent for employees at the Mid-States Gummed Paper Company, Chicago, Ill.

In a secret ballot election held February 15, the union won 112 votes against 41 for the Mid-States Gummed Paper Employees Association, Inc. 19 votes were cast for neither organization. A total of 174 votes was cast.

Kalamazoo TAPPI To Meet

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry will meet at the Park American Hotel, Kalamazoo, Mich., Thursday, April 7, 1938 at 6:30 P.M.

Fred A. Weymouth, research chemist and ink technician of the International Printing Ink Company will discuss the recent developments in printing inks and high speed printing. Anyone desiring to attend will be welcome.

Inland Container Corp. Gets Awards

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., March 21, 1938.—Three designs of shipping containers devised by the Inland Container Corporation of this city have been awarded prizes for outstanding merit in attractiveness, utility and novelty, it has been announced.

Newest of the package ideas originated by the company is that of packing garden hose for retail sales in a decorated, octagon-shaped box. The design brought to the B. F. Goodrich Company of Akron, Ohio, users of the product, the gold award in the shipping container group of the 1937 all-American package competition sponsored by Modern Packaging magazine.

An ensemble corrugated cleaner container and cleaning tool kit used by the Hoover Company of North Canton, Ohio, and designed by the local firm, was awarded the Irwin D. Wolf trophy for distinctive merit in packaging in competition sponsored by the American Management Association.

The third award to the local firm was for its design of a shipping container used by Schenley Distributors, Inc., of New York. The package device was selected for the Wolf award for the most effective shipping container from the standpoint of employment of printing and color to further good design.

Algonquin May Suspend Operation

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., March 28, 1938—A statement that the Algonquin Paper Company would suspend operations rather than submit to operating cost increases which would make a standard scale of wages impossible has aroused interest in the construction of a municipal power plant. An official declared this week that the mill would not continue to operate unless a fair wage standard could be maintained. He also declared that the concern had refused to pay the annual utility increase estimated at $40,000 to the New York Power Corp. and that the decision was final. Informed of the threat to close the mill which would affect hundreds of families in the city and take away an annual payroll of $350,000, civic authorities have promised to confer with company officials on the possibility of constructing a municipal power plant. Although the company was reported considering building its own power plant for the mill and selling the surplus, it is understood that the city project was looked upon as more favorable in that a federal grant might be possible. The estimated cost would be about $700,000.

Buys Federal Paper Box Co.

[FROM OUR REGULAR CORRESPONDENT]

CHICOPEE, Mass., March 28, 1938—J. K. Makrianes has purchased the Federal Paper Box Shop on Front street and will operate the plant as the National Paper Box Company, manufacturing setup paper boxes.

Nashua River Warehouse Burned

A press dispatch from Pepperell, Mass., under date of March 28, says that "The Nashua River Paper Company warehouse was in ruins today after a $300,000 fire which destroyed seventy-five carloads of wood pulp and scorched two adjacent buildings."

J. Andersen & Co.

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21 East 40th Street

New York

CHEMICAL & MECHANICAL PULP

Kraft Pulp

BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
KALIX TRÄINDUSTRI AKTIEBOLAG
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KELLNER-PARTINGTON PAPER PULP CO., LTD.
Sarpsborg, Norway
Edsvalla, Sweden
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AKTIESELSKABET GREAKER CELLULOSEFABRIK
Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
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West Virginia Pulp and Paper Company

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Manufacturers of

ENGLISH FINISH SUPERCALENDERED MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card and Label Papers

HIGH GRADE COATED BOOK

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KRAFT WRAPPING AND KRAFT ENVELOPE.
KRAFT CYLINDER BOARD.
BLEACHED SULPHITE AND SODA PULP.
BLEACHED AND UNBLEACHED KRAFT PULP.

MILLS:

Mechanicsville, New York — Tyrone, Pennsylvania
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Covington, Virginia — Cass, West Virginia
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Knox felts

EXCELSIOR KNOX Woolen Co. Camden, Me. FELTS & JACKETS

HIGH POROSITY

. . . as a characteristic of a paper maker's felt will, not only add to the life of felt, but saves time lost on the machine due to excessive shut downs for washing. Specify

EXCELSIOR FELTS

and minimize this trouble. Made by the Knox Woolen Co., of Camden, Maine, since 1864.

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ECCO CLAYS TRADE MARK

UNIFORM! • SUPERIOR • DEPENDABLE

English China Clays Sales Corporation
551 Fifth Avenue, New York City

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 30, 1938.

The wholesale paper market reports little change in the demand for most grades of paper for the current week. Sales volume continues below expectations but more inquiries are being received for some grades and the paper industry is holding up much better than that of general industry. Lack of confidence in the trend of industry and trade in general continues to restrict buying to a substantial extent to immediate requirements. The expectation of a possible reduction in prices in some lines prompts a cautious policy and the hand-to-mouth buying which has prevailed for some weeks continues.

Although lower prices have been announced in some lines during the week, the contract and spot market prices of practically all other grades of paper remain relatively firm, with no indication at this time of any further, or general reductions, in prevailing prices. Some price cutting is reported here and there but it is reported in the trade to be of no greater extent than during the past. With inventories down to a minimum and fair prices relatively well maintained, the paper trade indicates a healthy tone.

The contract demand for newsprint continues active and shipments are moving in normal volume.

The news of the current week is the reduction in the prices of some grades of sulphite bond papers $5 to $10 per ton. The prices of other grades of paper are unchanged. Kraft papers are reported to be maintaining the improvement in demand made in January and February, with little change expected in the near future.

Chemical Pulp

The demand for chemical pulp continues very light with practically no new business being transacted. The condition of the market is unchanged for the week, with more inquiries being received but no definite change in demand. The price trend is downward with some small reductions in some grades of pulp for the week. With large stocks in storage at the mills, little change in the demand for pulp is looked for in the near future.

Mechanical Pulp

The mechanical pulp market continues quiet. Prices are unchanged and conform to prevailing quotations.

Old Rope and Bagging

The demand for old rope continues very light and there is little activity in bagging. Prices of rope and bagging are unchanged and conform to prevailing market prices. No change in demand or prices are looked for by the trade in the immediate future.

Rags

The domestic rag market is very quiet. Prices are unchanged for the week and in general, conform to the quotations which have prevailed for some weeks. The foreign rag market is inactive. Prices are nominal.

Waste Paper

The waste paper market reports little business being done. Prices are unchanged for the week and conform to prevailing quotations, which are practically nominal.

Twine

The twine market reports business as very light. Prices are unchanged for the week at prevailing quotations.

Pulp Shipments to China Paralyzed

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., March 26, 1938—Paralyzation of pulp and paper shipments to China from the British Columbia market is one direct result of the war situation in the Orient. In addition shipments to Japan have been considerably reduced in volume owing to credit difficulties. For several months British Columbia newsprint producers shipped to the Chinese market via Hong Kong where trans-shipment was made to Canton. When the Cantonese port was blockaded by the Japanese fleet, this route was eliminated and as a result shipments have been further restricted.

George M. Graves Co. To Liquidate

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 21, 1938.—The George M. Graves Company, Inc., paper stock dealers, has issued the following notice: "Owing to the recent death of our president, Mr. George M. Graves, and in conformity with his wishes, the board of directors announce that the business will be liquidated as of March 31, 1938.

"Our past pleasant business relations have been much appreciated."

The company will continue to transact business until March 25.

Adam Ritz Dead

Adam Ritz, age 83, died at his home in Franklin, Ohio, March 22. Mr. Ritz is survived by his widow, one son, six daughters, two brothers, and two sisters. Mr. Ritz was connected with the paper industry for over sixty years and spent most of his life in the Miami Valley territory. He retired seven years ago, at which time he was superintendent of The Ohio Paper Company in Miamisburg, Ohio.

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Perforated Screens
For Pulp and Paper Mills

Steel, Copper, Brass
Bronze, Monel Metal
and Other Alloys
Punched for Centrifugal
and Rotary Screens,
Pulp Washers, Drainer
Bottoms, Filter Plates, etc.

Charles Mundt & Sons
68 Fairmount Ave. Jersey City, N. J.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

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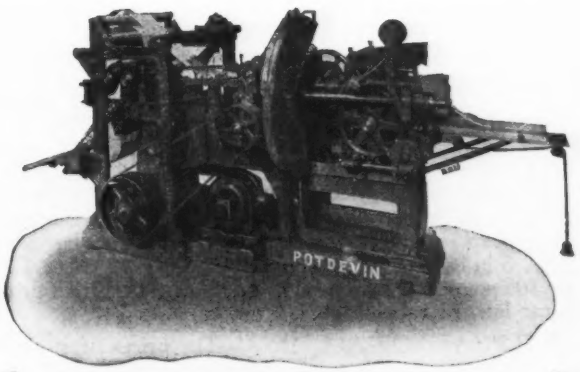
NEW! **POTDEVIN "CENTURY MODEL"**



It's a POTDEVIN flat and square bag machine — Model 101 . . . it's compact . . . it's high-speed . . . it's ruggedly constructed

Makes small grocery (up to 2-pound), notion and specialty bags . . produces 1100 bags per minute.

Comprises vertical delivery, automatic counter, foolproof, tapeless bottom forming drum, self-contained power unit.

POTDEVIN MACHINE CO.

1223 38th ST., BROOKLYN, N. Y.
EST. 1893 TEL. WIndsor 6-1700

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 30, 1938.

BLANC FIXE—The demand for blanc fixe continues about on the level of the preceding week. Prices are unchanged at prevailing quotations. The pulp is quoted at from $42.50 to $45 per ton, in bulk; the powder is offered at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—The price of bleaching powder continues firm. Prices are unchanged and conform to prevailing quotations. Bleaching powder is quoted at from $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The demand for casein is reported as fair. Prices are slightly lower for the current week. Domestic standard ground casein is quoted at from 8 to 9 cents per pound; domestic finely ground at from 9 to 10 cents per pound; all in bags, car lot quantities.

CAUSTIC SODA—Prices of caustic soda continue firm and unchanged at prevailing quotations. Solid caustic soda is quoted at from $2.10 to $2.30 per 100 pounds; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market reports prices as firm and unchanged at prevailing quotations. Imported clay is quoted at from $14.50 to $25 per ton, ship side. Domestic filler clay is offered at from $6.50 to $12 per ton; coating clay at from $11 to $22 per ton, at mines.

CHLORINE—The price of chlorine is firm and unchanged at prevailing quotations. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin continues about on the level of the preceding week. "G" gum rosin is quoted at $4.75; wood rosin at $5.10 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is quoted at $2.68 per 100 pounds, f.o.b., shipping point.

SALT CAKE—Prices of salt cake are reported firm and unchanged at prevailing quotations. Prices range at from $12 to $13.50 per ton; chrome salt cake at from $11 to $12 per ton, f.o.b., shipping point. Imported salt cake is offered at from $14.50 to $15 per ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—The prices of soda ash continue firm and unchanged at prevailing quotations. Prices of soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The prices of corn starch are reported as firm and prices are slightly higher for the current week. Globe pearl is quoted at $2.60 per 100 pounds, in bags, and at $2.85 in barrels. Special paper starch is quoted at $2.70 per 100 pounds, in bags, and at $2.95 in barrels. All prices in car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—The prices of sulphate of alumina continue firm and unchanged at prevailing quotations. The commercial grades are quoted at from $1.25 to $1.60 per 100 pounds; iron free at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market reports prices as firm and unchanged at prevailing quotations. Annual contracts are quoted at $18 per long ton, f.o.b., cars at mines. Spot and nearby car lots are quoted at $21 per ton.

TALC—Prices of talc continue firm and unchanged at prevailing quotations. Domestic talc is offered at from $15 to $18 per ton, Eastern mines. Imported talc is quoted at from $25 to $40 per ton, on dock.

Market Quotations

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	@	—
Kraft—per cwt.—Delivered Zone A			
No. 1 Northern	$5.25	@	—
Superstandard	5.00	@	—
Northern Standard Wrapping	4.75	@	—
Standard Wrapping	4.50	@	—
Tissues—Per Ream—Carlots			
White No. 1	.92½	@	—
White No. 1 M. G.	.90	@	—
White No. 1½	.67½	@	—
White No. 2	.60	@	—
Anti-Tarnish M. G.	.75	@	—
Colored	.87½	@	—
Kraft	.75	@	—
Manila	.60	@	—
Unbl. Toilet, 1 M.	3.20	@	—
Bleached Toilet	5.26	@	—
Paper Towels—			
Unbleached	1.80	@	—
Bleached	2.10	@	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	$8.25	@	$10.25
No. 2 Jute	7.50	@	9.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Boards, per ton—			
News	$30.00	@	—
Chip	30.00	@	—
Sgl. Mla. Ll. Chip.	45.00	@	—
Jute Lined Chip	45.00	@	—
White Pat. Coated	57.50	@	—
Kraft Liners	55.00	@	—
Binders Boards	75.00	@	80.00

The following are representative of distributors' resale prices:—

Rag Content Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$41.40@$48.50	$42.55@$50.00
100% Rag	32.80@ 38.50	33.95@ 39.75
65% Rag	.....	32.20@ 37.75
75% Rag	24.75@ 29.00	25.90@ 30.50
65% Rag	21.65@ 26.25	22.80@ 27.75
50% Rag	18.70@ 22.75	19.90@ 24.25
25% Rag	15.80@ 19.25	16.95@ 20.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra

Sulphite Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$8.80@$10.75	$9.95@$12.00
No. 2	7.90@ 9.50	9.05@ 11.00
No. 4	7.00@ 8.50	8.20@ 10.00

Colors .75 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper,
Delivered in Zone 1:

No. 1 Glossy Coated	$12.15@$14.25
No. 2 Glossy Coated	10.55@ 12.25
No. 3 Glossy Coated	9.35@ 11.00
No. 4 Glossy Coated	8.80@ 10.50
No. 1 Antique (watermarked)	8.80@ 10.50
No. 2 Offset	8.05@ 9.50
A Grade E. F.	7.90@ 9.50
A Grade S. & S. C.	8.15@ 9.75
B Grade E. F.	7.30@ 8.75
B Grade S. & S. C.	7.55@ 9.00
C Grade E. F.	7.00@ 8.50
C Grade S. & S. C.	7.25@ 8.75
D Grade E. F.	6.75@ 8.25
D Grade S. & S. C.	7.00@ 8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—		
Moist	33.00	@34.00
Dry	38.00	@40.00
(Delivered)		
No. 1 Domestic and Canadian	27.00	@32.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—		
Prime Bleached Sulphite	3.00	@ 4.15
Prime Qualities—		
Easy-Bleaching Sulphite	2.50	@ 2.65
Strong Unbleached Sulphite	2.25	@ 2.50
(On Dock, Atlantic Ports)		
Kraft Bleached	3.00	@ 3.25
Kraft Light & Strong	2.50	@ 2.75
Kraft No. 1	2.25	@ 2.50
Kraft No. 2	2.00	@ 2.25
(F.o.b. Pulp Mill)		
Kraft Domestic	2.00	@ 2.50
(Delivered)		
Soda Bleached	2.90	@ —

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	7.00	@ 7.25
Silesias No. 1	5.00	@ 5.25
New Unbleached	7.75	@ 8.25
Blue Overall	5.50	@ 6.00
Fancy	3.00	@ 3.10
Washables	2.10	@ 2.25
Mixed Khaki Cuttings	3.60	@ 3.75
O. D. Khaki Cuttings	4.35	@ 4.50

Old Rags

White, No. 1—		
Repacked	3.40	@ 3.50
Miscellaneous	2.75	@ 3.00
White, No. 2—		
Repacked	2.10	@ 2.25
Miscellaneous	1.70	@ 1.80
Thirds and Blues—		
Repacked	1.40	@ 1.50
Miscellaneous	1.25	@ 1.30
Roofing Rags—		
No. 1	1.15	@ 1.25
No. 2	.95	@ 1.00
No. 3 (bagging)	.65	@ .70
No. 4	.65	@ .70
No. 5A	.65	@ .70

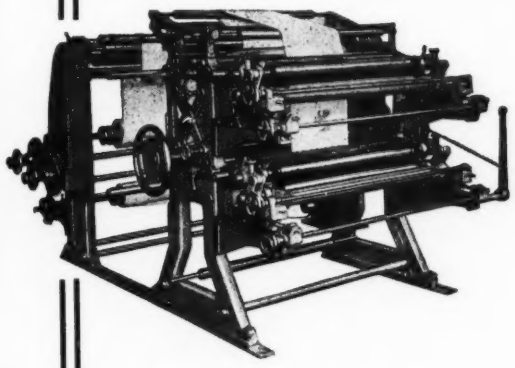
Foreign Rags

New Rags

New Dark Cuttings	2.25	@ 2.40
New Mixed Cuttings	2.00	@ 2.20
New Light Silesias	5.50	@ 5.75
Light Flannelettes	5.50	@ 5.75
New White Cuttings	7.00	@ 7.50
New Light Oxford	4.00	@ 4.50
New Light Prints	3.00	@ 3.25

Old Rags

No. 1 White Linens	7.50	@ 8.50
No. 2 White Linens	6.50	@ 7.50
No. 3 White Linens	4.50	@ 5.50



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Green Bay, Wisconsin

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GLENS FALLS, N. Y.

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CONSISTENCY REGULATORS
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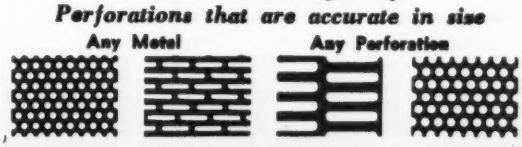


The Harrington & King Perforating Co.

5652 Fillmore St., Chicago, Ill. 114 Liberty St., New York, N.Y.

No. 4 White Linens	2.25	@	3.25
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	3.00
No. 4 White Cotton	1.90	@	2.20
Extra Light Prints	2.00	@	2.40
Ord. Light Prints	1.75	@	2.15
Med. Light Prints	1.55	@	1.95
Dutch Blue Cottons	2.25	@	2.50
French Blue Linens	3.00	@	—
Checks and Blues	2.00	@	—
Linsey Garments	1.90	@	2.00
Dark Cottons	1.50	@	1.60
Old Shopperies	1.30	@	1.45
New Shopperies	1.45	@	1.50
French Blues	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.20	@	2.25
Domestic	2.00	@	2.15
Wool Tares, light	1.50	@	1.75
Wool Tares, heavy	2.00	@	2.10
Bright Bagging	1.60	@	1.70
Manila Rope—			
Foreign	3.00	@	3.25
Domestic	2.75	@	3.00
Jute Threads	2.75	@	3.00
Sisal Strings	1.75	@	2.00
Mixed Strings	.60	@	.70

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.40	@	2.50
Ordinary Hard White No. 1	1.90	@	2.00
Soft White No. 1	1.80	@	2.20
Flat Stock—			
Stitchless	.70	@	.80
Overissue Mag	.60	@	.70
Solid Flat Book	.55	@	.60
Crumbled No. 1	.40	@	.45
Ledger Stock	.90	@	.95
New B. B. Chips	.15	@	.20
Manila—			
New Env. Cut	1.85	@	2.00
New Cuttings	1.50	@	1.60
Old Kraft Machine—			
Compressed bales	.70	@	.80
News—			
No. 1 White News	1.25	@	1.30
Strictly Overissue	.45	@	.50
Strictly Folded	.27½	@	.30
No. 1 Mixed Paper	.10	@	.12½

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.12½	@	.14
White Hemp	.13½	@	.15
Fine Polished—			
Fine India	.16	@	.18
Unpolished—			
Box	.09	@	—
Paper Makers	.08	@	.09½
Tube Rope	.10¾	@	.11½
Wall Paper	.10¾	@	.11½
Wrapping	.12	@	.14
Soft Fiber Rope	.10¾	@	.11¼
Cotton	.16	@	.22

(Hard Fiber)

Medium Java	.09	@	.10
Mex. Sisal	.08½	@	.09½
Manila	.18	@	.25

Domestic	2.25	@	2.50
Sisal Rope	1.65	@	1.75
Mixed Rope	.50	@	.55
Transmission Rope	1.00	@	1.25
Soft Jute Ropes	1.90	@	2.00
Jute Carpet Threads	1.00	@	1.50
Gunny Bagging—			
Foreign	2.25	@	2.30
Domestic	1.85	@	2.00
Bleachery Burlap	3.50	@	4.00
Scrap Burlap—			
Foreign	1.65	@	1.80
Domestic	1.50	@	1.60
Scrap Sisal	1.25	@	1.50
Scrap Sisal for Shredding	1.85	@	2.00
Wool Tares, Heavy	1.60	@	1.80
New Burlap Cuttings	1.85	@	2.00
Aust. Wool Pouches	2.75	@	3.00
Heavy baling bagging	1.75	@	1.90
Paper Mill Bagging	1.50	@	1.60
Bagging No. 2	.85	@	1.00

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.03	@	.03¼
New White No.1	.06¾	@	.07
New White No. 2	.05	@	.05½
New Light Flannelettes	—	@	.05½
Silesias No. 1	.05¼	@	.05½
New Black Silesias	.03¾	@	.04
Silesias No. 1			
Soft Unbleached	.06¾	@	.07
Blue Cheviots	.05	@	.05½
Fancy	.03	@	.03¼
Washable	.02¾	@	.03

Cottons—According to grades—			
Blue Overalls	.05	@	.05½
New Black, soft	.03¾	@	.04
Khaki Cuttings	.03¾	@	.03¾
D. D. Khaki	.04	@	.04½
Corduroy	.02¾	@	.03
New Canvas	.07½	@	.07¾
B.V.D. Cuttings	.06¾	@	.07¼

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.75	@	2.00
Third and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	3.90	@	4.00
Roofing Stock—			
No. 1	1.00	@	1.10
No. 2	.75	@	.85
No. 3	.65	@	.70

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.10	@	1.20
Dutch Blues	2.75	@	2.90
New Checks and Blues	2.85	@	3.00
Old Fustians	2.50	@	2.60
Old Linsey garments	1.75	@	1.90
New Silesias	6.00	@	6.50

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.06	@	.06½
New White, No. 2	.04	@	.04½
Light Silesias	—	@	.05
Silesias, No. 1	—	@	.04½
Black Silesias, soft	.03	@	.03½
New Unbleached	—	@	.06
Washable, No. 1	.01½	@	.01¾
Blue Overall	.04	@	.04½
Cottons—According to grades—			
Washable, No. 2	.01¼	@	.01½
New Blue	.01¼	@	.01½
Fancy Percales	—	@	.03
New Black Soft	.03	@	.03½
New Light Seconds	—	@	.04½
New Dark Seconds	.75	@	1.00
Khaki Cuttings—			
No. 1 O. D.	.03½	@	.04
No. 2 Mixed	—	@	.02¾
Corduroy	—	@	.02
New Canvas	.05	@	.05½
New Black Mixed	.02½	@	.02¾

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	2.25	@	2.50
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.50	@	1.75
Black Stockings (Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1	—	@	.75
Domestic No. 1	—	@	.75
Domestic No. 2	.65	@	.75
Roofing Bagging	.80	@	.90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	—
Domestic	1.70	@	1.75
Manila Rope	3.00	@	3.25
Sisal Rope	1.75	@	2.00
Mixed Rope	.75	@	1.00
Scrap—			
No. 1	1.50	@	—
No. 2	1.00	@	1.25
Wool Tares, heavy	3.25	@	3.50
Mixed Strings	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.35	@	2.40
No. 2 Hard White	2.00	@	2.10
No. 1 Soft White	2.00	@	2.10
No. 2 Soft White	1.40	@	1.50
No. 1 Mixed	.70	@	.75
Solid Ledger Stock	1.50	@	1.60
Ledger Stock, white	1.25	@	1.30
Ledger Stock, colored	.85	@	.90
No. 1 Books, heavy	.85	@	.90
Manila Cuttings	1.50	@	1.75
Print Manila	.45	@	.50
Container Manila	—	@	.40
Kraft Paper	.90	@	.95
No. 1 Mixed Paper	.25	@	.30
Straw Board Chip	.25	@	.30
Binders Board Chip	.25	@	.30
Corrugated Board	.50	@	.55
Overissue News	.55	@	.60
Old Newspapers	.30	@	.35

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.25	@	2.40
No. 1 Soft White	1.85	@	2.15
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.65	@	.75
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.55	@	.65
Manila Env. Cuttings	1.60	@	1.70
Manila Envelope Cuttings, extra quality	2.00	@	2.10
No. 1 Old Manila	.85	@	.95
White Blank News	1.30	@	1.40
No. 1 Kraft	.90	@	1.00
Mixed Papers	.10	@	.12½
Print Manila	.45	@	.50
Container Manilas	.27½	@	—
Old Newspapers	.25	@	.32½
Paper Wool Strings	—	@	.50
Overissue News	.45	@	.50
Box Board Chips	.20	@	.25
Corrugated Boxes	.30	@	.32½
Kraft corrugated boxes	.60	@	.65
Screenings wrappers	.45	@	.50

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	2.25	@	2.50

CHICAGO

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	3.15	@	3.25
No. 1 Hard White	2.50	@	2.60
No. 1 Soft White	2.05	@	2.10
Ledger & Writings	1.30	@	1.40
Solid Books	1.20	@	1.25
Blanks	1.40	@	1.50
Krafts	.90	@	1.00
New Kraft Cuts	1.70	@	1.80
Manila Env. Cuts	2.15	@	2.25
Ex. No. 1 Manila	2.15	@	2.25
Print Manila	1.70	@	1.80
Overissue News	.60	@	.70
Old Newspapers—			
No. 1 Folded News	.45	@	.50
No. 1 Mixed Paper	.35	@	.40
Roofing Stocks—			
No. 1	2.00	@	2.25
No. 2	1.85	@	2.00

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	.36½
No. 1 Tints	.36½	@	.37½
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	—	@	.1550
No. 4 Tints	.16	@	.1650
No. 5 Bond—White	11.35	@	—
No. 5 Bond—Tints	12.35	@	—
No. 5 Bond—Golden Rod	13.35	@	—
No. 5 Ledger—White	.1185	@	—
No. 5 Ledger—Tints	.1285	@	—
No. 6 Bond—White	10.75	@	—
No. 6 Bond—Tints	11.25	@	—
No. 6 Bond—Golden Rod	12.75	@	—
No. 7 Bond—White	9.10	@	—
No. 7 Bond—Tints	9.60	@	—
No. 7 Bond—Golden Rod	11.10	@	—
Book—			
No. 1 M. F.	7.10	@	7.35
No. 2 M. F.	6.85	@	7.20
No. 3 M. F.	5.60	@	6.20
No. 1 S. C.	7.60	@	7.85
No. 2 S. C.	7.10	@	7.35
No. 3 S. C.	6.10	@	6.35
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.00	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.50	@	—
Wrapping—delivered—			
Rag Brown	4.85	@	5.55
White Wrap	4.00	@	—
"B" Manila	4.90	@	6.25
No. 1 Manila	5.50	@	7.00
Fiber	5.50	@	—
Kraft, No. 1	5.50	@	—

(F. o. b. Cars, Toronto)

News, per ton—			
Rolls (contract)	$46.00	@	—
Sheets	54.00	@	—

Pulp

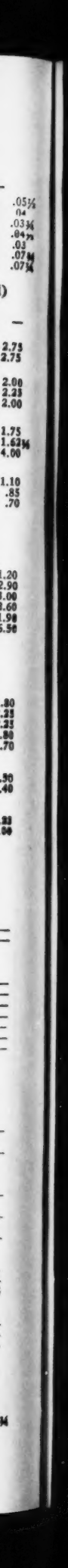
Ground wood	29.50	@	—
Unbleached Sulphite	54.00	@	—
Book (Class 1)	64.00	@	—
Writing (Class 2)	62.00	@	—
Select (Class 3)	63.00	@	—
Kraft	50.00	@	—
Soda	56.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.25	@	—
Soft White	2.15	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.80	@	—
Light and Crumpled Book Stock	.75	@	—
Ledgers and Writings	1.10	@	—
Manilas—			
New Manila Cut	1.35	@	—
Printed Manilas	.55	@	—
Kraft	1.00	@	1.55
News and Scrap—			
Strictly Overissue	.55	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06¾	@	.07
Fancy Shirt Cuttings	.02½	@	.02¾